DESH

TOWARDS
A HEALTHY
SOCIETY

AIDS PREVENTION EDUCATION

DEEPAM EDUCATIONAL SOCIETY FOR HEALTH

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REFERENCE MANUAL FOR TEACHERS

# AIDS PREVENTION EDUCATION THROUGH TEACHERS & STUDENTS

## APET/S

USING

## PERSONAL SOCIAL HEALTH EDUCATION

PRODUCED & IMPLEMENTED

BY

**DEEPAM EDUCATIONAL SOCIETY FOR HEALTH - DESH**

FUNDED BY **BILANCE**

With support from Government of TamilNadu.

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APET/S Reference Manual and the text for the Flip Charts have been written by the staff of DESH. Particularly noteworthy is the contribution of the following members:

*For contents of the manual:* Kavita Chandhok, Vidhya Ganesh, Sai Kumar R., Abston Daniel, Shyamala Ashok, Sudha and B. Radhakrishnan;

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*For administrative help and editorial comments:* Wing Commander (Retd) D.K. Sundaram;

*For secretarial assistance:* Aruna J.

Since this manual has been brought out with the sole objective of helping educators and youth work towards a healthy society, it will be gratifying to know that it is being put to good use in the cause of the prevention of AIDS.

Saraswathi Sankaran
Executive Director
DESH

# TABLE OF CONTENTS


| | | |
|---|---|---|
| UNIT I: | THE CONCEPT OF HEALTH | 1 |
| Chapter 1: | Good Health | 2 |
| Chapter 2: | Preventable Causes of Death | 5 |
| UNIT II: | AIDS, NATURE OF DISEASE & ITS TRANSMISSION | 9 |
| Chapter 3: | Nature of AIDS | 12 |
| | 3.1: What is AIDS? | |
| | 3.2: What causes AIDS? | |
| | 3.3: Can AIDS be cured? | |
| | 3.4: Is there a vaccine against AIDS? | |
| | 3.5: AIDS – the current scenario | |
| Chapter 4: | The Immune System | 18 |
| | 4.1: What is immunity? | |
| | 4.2: Immune system and problems | |
| | 4.3: How HIV breaks down the immune system | |
| Chapter 5: | HIV Illness and Testing | 22 |
| | 5.1: Stages of HIV illness | |
| | 5.2: Iceberg effect | |
| | 5.3: HIV Testing | |
| Chapter 6: | How HIV/AIDS Spreads | 27 |
| | 6.1: Modes of transmission | |
| | 6.2: How to avoid HIV/AIDS | |
| Chapter 7: | How HIV/AIDS Does Not Spread | 30 |
| UNIT III: | LOVE, SEX, REPRODUCTION & HEALTH | 35 |
| Chapter 8: | Love and Relationship | 36 |
| Chapter 9: | The Human Reproductive System | 38 |
| | 9.1: Puberty | |
| | 9.2: The male reproductive system | |
| | 9.3: The female reproductive system | |
| | 9.4: The menstrual cycle | |
| | 9.5: Conception | |
| | 9.6: Contraception | |
| Chapter 10: | Healthy Attitude Towards Sex | 42 |
| | 10.1: Sexual practices and risks involved | |
| | 10.2: Behavioural factors that put one at risk | |
| | 10.3: Other STD's and AIDS | |
| | 10.4: How to avoid casual sex | |

| | | |
|---|---|---|
| UNIT IV: | BLOOD & BLOOD SAFETY | 49 |
| Chapter 11: | Blood | 50 |
| | 11.1: Function and constitution of blood | |
| | 11.2: Blood related diseases | |
| | 11.3: Blood transfusion and its needs | |
| | 11.4: Preservation and storage of blood | |
| Chapter 12: | Blood Safety and AIDS | 53 |
| | 12.1: Blood safety | |
| | 12.2: The need for blood donation | |
| | 12.3: Motivation | |
| UNIT V: | SOCIAL ISSUES & AIDS | 57 |
| Chapter 13: | Isolation and Discrimination | 58 |
| Chapter 14: | Care and Family Support | 60 |
| Chapter 15: | Socio-Economic Impact of AIDS | 63 |
| UNIT VI: | SELF EMPOWERMENT WITH ACCOUNTABILITY | 65 |
| Chapter 16: | Development of Life Skills | 66 |
| | 16.1 Value system | |
| | 16.2 Decision making | |
| | 16.3 Self-esteem | |
| | 16.4 Positive thinking | |
| | 16.5 Coping with failure | |
| | 16.6 Saying 'NO' to unhealthy pressure | |
| UNIT VII: | PREVENTION & CONTROL OF HIV/AIDS | 81 |
| Chapter 17: | Prevention at Individual Level | 82 |
| | 17.1: Prevention of sexual transmission | |
| | 17.2: Prevention of transmission among IVDU's | |
| | 17.3: Assuring a safe blood supply | |
| | 17.4: Prevention of transmission from mother to child | |
| | 17.5: Creating awareness at the workplace | |
| Chapter 18: | Prevention at Community Level | 86 |
| | Bibliography | 91 |

# PREFACE

How do we protect our children, ourselves and the society at large from the killer disease, AIDS ? Here is a major challenge to humanity.

Deepam Educational Society for Health – DESH, has taken up the massive task of implementing AIDS Prevention Education through Teachers and Students – APET/S. This programme, launched on 25th January, 1993, has been made possible through the generous funding from UNICEF. It caters primarily to the social health needs of adolescent students in high schools and higher secondary schools.

**WHY APET?**

Incidence of AIDS is highest in the 18-44 age group. Therefore, before "at risk" behaviour sets in, the vulnerable adolescent group is most suitable for prevention programmes.

Adolescents in the age group 13-17, particularly those belonging to the lower economic strata of society, are vulnerable because,

(a) most of them will drop out of the educational system at this stage;
(b) once they are out of this network, they become relatively inaccessible;
(c) they take up casual/contractual employment; and/or
(d) they get married at a relatively young age.

Adolescent behaviour is characterised by "rebellion", "experimentation", and "peer group unity". Most habits, some lifelong, are formed during these formative years. The awakening of sexual feelings make this group particularly important for AIDS prevention programmes. For this group, merely giving knowledge about AIDS and highlighting its dangers have been found inadequate. Fear arousal has been found to be counter-productive among youth at many places. A "who cares" response is one of the common reactions of this group. An effective programme which also includes sex education will make a positive impact.

Teenagers need to know before they leave school about sex and sexuality. Sex education will help boys and girls to understand the part sex plays in life and to recognise its physical, spiritual and moral dimensions. It should include reliable knowledge of human reproduction and of physical and emotional development. It should prepare both boys and girls for marriage, family and homemaking. It should enable young people to resist the negative influences of the mass media and society and help them to solve their own personal problems.

Adults cannot think for the young. However, they can surely help the young think for themselves, make their own decisions and be accountable for their own behaviour.

## APET through PSHE

Facing the adult world without the guidance of a schooling system, an ignorant or ill--informed youth is in considerable danger of falling into high risk behaviour. Therefore, it becomes imperative to address adolescent groups in schools and impart Personal Social Health Education - PSHE, with particular reference to AIDS control.

PSHE emphasizes the enhancement of generic social skills and life-skills. This includes skills like self-assertion, confidence-building, decision-making, action-planning, communication about behavioural issues, positive-thinking, etc. This may be called the self--empowerment approach.

"Young people who have participated in such PSHE programmes are more able to resist a variety of unwanted social pressures (eg. smoking, drinking, casual sexual relationships) and can persevere better with healthier lifestyles." — (Brenna Bry)

Powerful, interactive and effective social health education PSHE programes can help young adolescents learn to use their rationalising ability more purposefully, to avoid high risk lifestyles.

## WHAT IS APET?

APET project will train about 4,000 teachers in about 400 schools to reach the total student population of IX, X, XI, and XII standards in Madras, which is about 1,50,000 students. This student population will be covered over a period of three academic years. Principals, teachers, parents and peer educators will be involved in the development and implementation of the programme.

The 1.8 million youth consisting of adolescents and young people in schools and colleges in Tamil Nadu are easily identified and approached through educational insitutions. Parent-Teacher Associations offer a well-defined path. Our experience has shown that Information-Education-Communication (IEC) programmes for teachers and parents must precede the programmes for students. There are over 103,000 teachers and lecturers teaching students in higher secondary schools, colleges and professional institutions in Tamil Nadu. This teaching population requires to be informed about AIDS. They, in turn, can orient students on responsible and healthy lifestyle practices.

On the basis of our pilot study conducted among 2,000 students in higher secondary schools and colleges in Madras, DESH strongly advocates a three-pronged approach, phased in sequence.

The programmes addressed to youth must follow the three-phased approach, namely,

**I —information giving**
**E —the self-empowerment model to say "no" to unhealthy lifestyle practices**
**C —collective action.**

It is a worthwhile effort to take youth as partners in AIDS control campaigns, besides making them responsible and accountable for their own behaviour. Youth are to be guided to say "no" to alcohol, drugs and casual sex. They must feel empowered and proud to say "no".

**HOW IS APET IMPLEMENTED?**

*Workplan for each school*

WORKSHOP 1: DESH will conduct the workshop for all teachers of IX, X, XI, and XII standards. At the end of the workshop, each teacher will identify, from their respective classes, two peer educators. After the workshop, effective and involved teachers will be identified as volunteers / special teachers.

WORKSHOP 2: DESH will conduct the workshop for groups of the special teachers.

WORKSHOP 3: With the help of DESH, special teachers will conduct workshops for peer educators.

WORKSHOP 4: Peer educators will conduct workshops for their classmates DESH and volunteer teachers will observe and assist.

These and subsequent workshops conducted by the students will be monitored and documented.

**CONTENTS OF THE MANUAL**

This manual presents AIDS Prevention Education in 18 chapters. The chapters are compilations of various facts, data, case studies, stories, exercises, etc., and include:

- facts about AIDS;

- awareness about high risk lifestyle;

- empowerment to protect oneself and others;

- teaching communication skills;

- encouraging collective action to prevent AIDS and high risk lifestyle.

With a view to eliciting maximum response from students and ensuring that each member of the group participates, a methodology has been deviced which has been effectively field tested.

Presented below in sequence are steps that can be followed by the teacher to conduct the workshop for students:

1. Group discussion on community concerns, social health and AIDS.
2. Flip charts are interpreted by students. The presentation is supplemented and misconceptions removed by educators.

3. Use of games, puzzles, case studies and skits to clarify concepts in information giving phase.
4. Use of unfinished stories, role plays, and interactive brain-storming sessions within the groups. Presentation of each group to develop (a) decision-making skills, (b) empowerment to say 'NO' to unhealthy peer pressure, and (c) effective communication about sex and sexuality.
5. Use of flip charts to relate real life situations.
6. Creation of ANTI-AIDS clubs or similar action programmes to motivate youth to act collectively for AIDS control.

**HOW TO USE THE MANUAL**

The manual has been formulated in accordance with the IEC methodology described earlier, emphasising the empowerment concept. Units I to V cover the information aspects of HIV/AIDS education and sex education. Unit VI aims to implement the self-empowerment approach by teaching life skills. Unit VII is the end product of information combined with self-empowerment, namely, collective action to control AIDS.

Each unit contains simple-to-do activities to make the sessions participatory and interesting. The activities have direct reference to the chapters covered under each unit. It is strongly recommended that educators impart HIV education primarily by implementing the activities as in the manual.

We hope that the flip charts and the manual will be fully utilized. Further editions of this manual can be fruitfully updated after the APET programme gathers momentum and we have had further interaction with teachers. We fervently hope that the set of flip charts and the manual will challenge, inform and satisfy those who take on the important role of health educators.

Saraswathi Sankaran
Executive Director.
**DESH**

# PREFACE - II Edition

APET/S program, funded by UNICEF, has been successfully completed by DESH in 404 schools in Chennai as of May 1996.

DESH has also disseminated awareness in Chengai-Anna and Chengai-MGR districts addressing about 40,000 adolescents and youth studying in high/higher secondary schools and colleges respectively. DESH has now taken up this program in other districts of Tamil Nadu starting with Salem, Periyar and Coimbatore districts. DESH plans to cover 800 schools in these districts with the help of local NGO partners. These NGOs are trained by DESH to impart Personal Social Health Education (PSHE) using educational materials like flip charts, manual and peer educators pamphlets, all prepared and supplied by DESH.

In the second edition we have attempted to include some more activities which, in our experience through conducting a good many programs, have proved to be effective in disseminating purposeful information on AIDS prevention and care. In the process we are inculcating healthy values and attitudes to lead a healthy and risk-free lifestyle.

We hope that all these will be found useful by the educators.

APET/S Reference Manual for Teachers has now been printed, both in English and Tamil, with the financial support form BILANCE.

Saraswathi Sankaran
*Executive Director*
DESH

# UNIT 1 THE CONCEPT OF HEALTH

**Topics covered**

Chapter 1 Good Health
Chapter 2 Preventable Causes of Death

**Objectives**

1. To raise the level of consciousness of students with regard to health. To understand that it is a community as well as a personal concern.
2. To develop a holistic approach – mental, physical and social – to good health.
3. To identify components of good health.
4. To understand the disease process.
5. To accept death as a reality of life; but to realise, however, that death due to certain diseases can be prevented.

**Suggested teaching methods**

1. General introduction by teacher.
2. Group discussion.
3. Games to make the session lively and interesting.

**Flip chart reference**

Numbers 1 and 2

**Activity**

1. Dumb Charade
   *Purpose:* To refer to the different components of good health, such as balanced diet, exercises, development of mind, care for others, love for nature, prayer, and healthy marital life.
   Ask seven participants to volunteer and enact each component without verbalizing anything. After each demonstration, let the audience identify each act.
   At the end, ask one participant to put it all together and explain with the help of flip chart 1.

# Chapter 1: GOOD HEALTH

At every stage of man's life, *health* is very important. For a productive, happy and active life, health is a fundamental requirement.

## WHAT IS HEALTH?

The World Health Organization (WHO) has defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity".

It is a condition under which a person is able to mobilize all his resources — intellectual, emotional and physical, for optimal living.

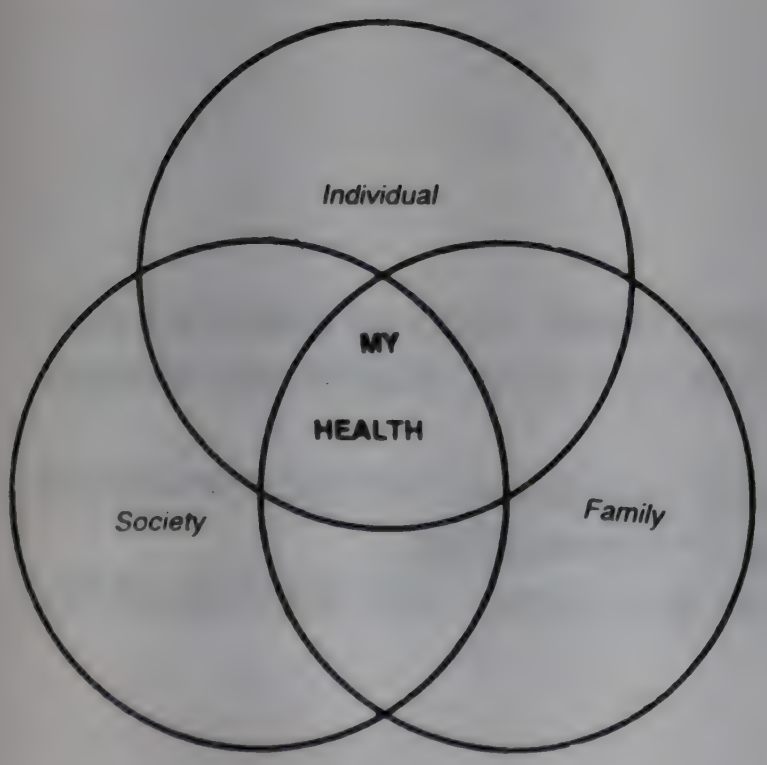
*Physical well-being* refers to the normal functioning of all body organs, considering age, sex and occupation.

*Mental well-being* refers not only to the absence of mental illness but also to the awareness of one's own abilities, emotions, strengths and weaknesses.

*Social well-being* refers to one's ability to adjust and interact productively in any society. It also means being responsible towards oneself, one's family, community and country.

## FACTORS INFLUENCING HEALTH

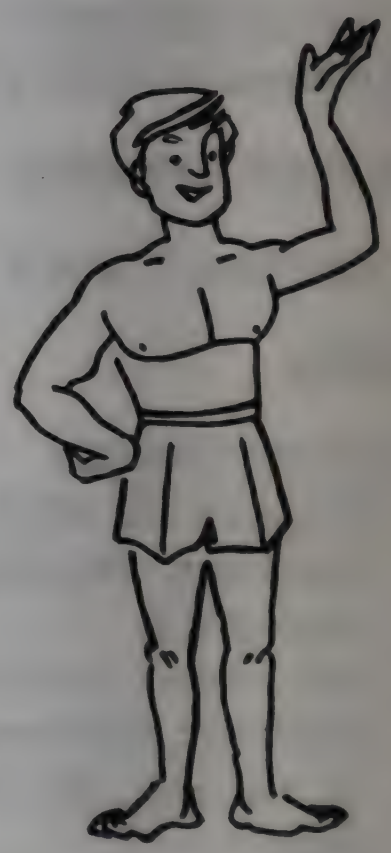
Health is influenced by personal, hereditary and environmental factors. The self, family and society — all contribute to a person's well-being.




*Individual* is accountable for his/her own well-being.

*Family* plays a major role since good habits, healthy behaviour, concern for others and health consciousness can be effectively inculcated in a family setting.

*Society* is many families put together. Rules and laws framed in a society should aim at promoting the good health of individuals.

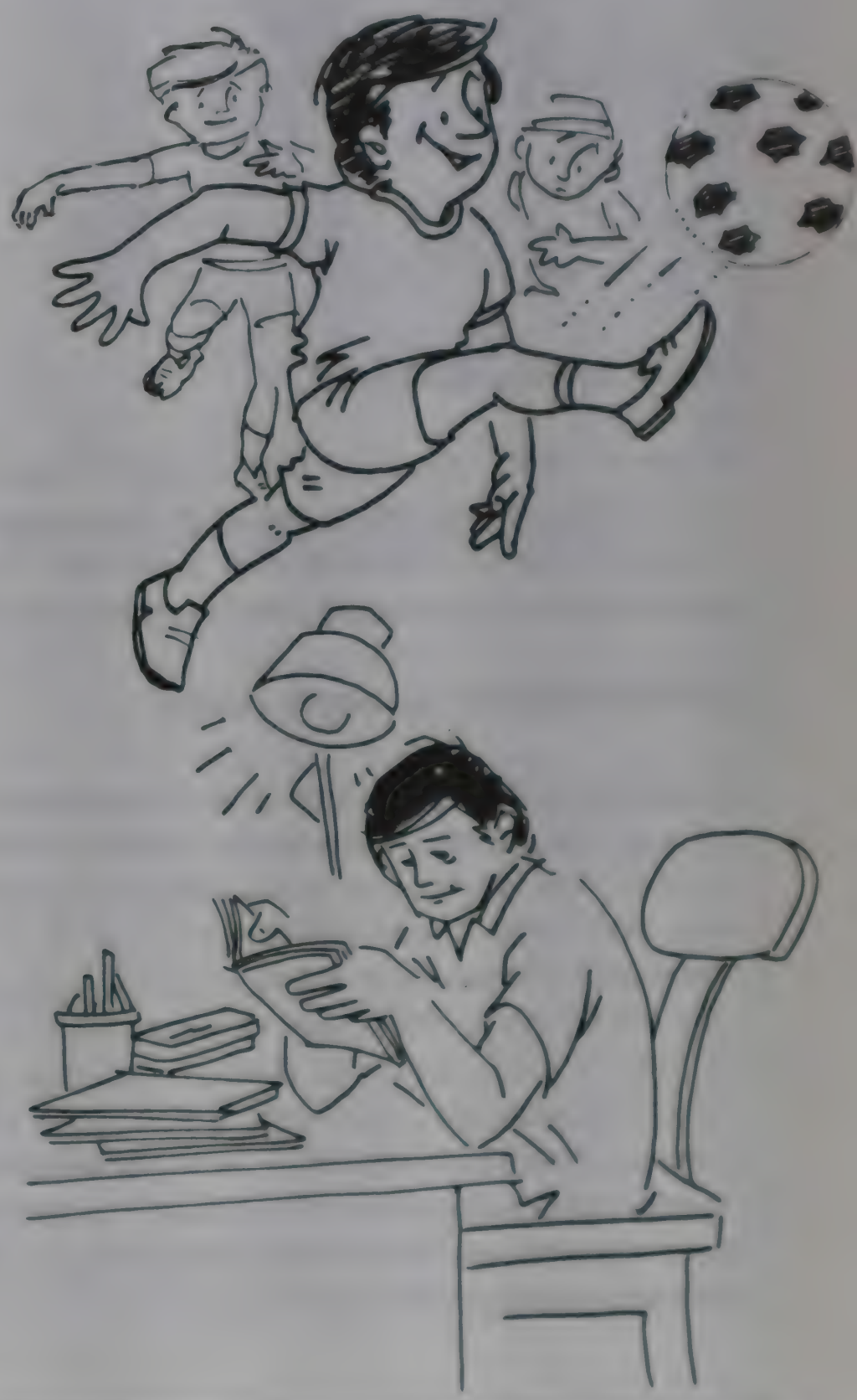


## WHAT ARE THE COMPONENTS OF GOOD HEALTH?

a. ***Well-balanced, nutritious food***

"We eat to live, not live to eat."
We should develop a taste for the right kind of food which keeps us healthy. Food components providing nourishment to the body are known as nutrients. These are proteins, carbohydrates, fats, vitamins and minerals. They are provided in various proportions, by different kinds of food like cereals, pulses, fruits, vegetables, milk and milk products, meat, fish, eggs, nuts, etc. A well-balanced diet should contain the required items in the right proportions, depending on the need of each individual.

b. ***Exercise and sports***



Regular physical exercise helps an individual to be free from disease. It increases blood supply to body organs, improves digestion, coordinates body activities and clears the mind. One should be aware of the right exercises, suitable to one's needs.

c. ***Intellectual pursuits***

Intellectual pursuits help one develop the ability to think rationally, to reserve judgement, to act only after considering the pros and cons in any situation, and to make mature and wise decisions. The better the education of a person, the greater his ability to make responsible and informed choices.

d. ***Care and consideration for others***

Man cannot live in isolation from society. Mutual care and consideration must be developed to give quality to life. To be humane and to show concern for others is characteristic of a healthy personality.

e. ***Appreciation of the environment***

One who learns to live with nature and appreciate it is a happy person. One has to develop the ability to identify oneself with the environment. "Be happy with nature, be happy with yourself."

f. ***Faith in God Almighty***

Faith in God, mankind and oneself helps one to develop a strong personality. Moral and spiritual well-being adds to the components of good health. Religion plays an important role in one's life but it should not lead to fanaticism. Instead, it should help mankind to live in health and harmony, in peaceful co-existence with others.

g. ***Responsibility for one's health***

Abstinence from sex before and loyalty after *marriage* is fundamental for the well-being of self, family and society. An individual has to be accountable for his/her own health, and for the health and well-being of one's life partner. One needs to know what is healthy and what is unhealthy, and how to be responsible in matters related to sex and sexuality. Sexuality is a fundamental component of personality, a mode of communicating with others, of feeling, of expressing love and building lasting human relationships. There is a tendency to reduce sexuality to genital experience alone, thus devaluing sex. But sexuality concerns much more than that. It involves the human person as a whole. Therefore sexuality is a constitutive dimension of an individual's existence. A fundamental objective of education is to acquire an adequate knowledge of the nature and importance of sexuality and of the harmonious and integral development of a healthy and wholesome personality.

# Chapter 2: PREVENTABLE CAUSES OF DEATH

Birth and death are natural phenomena. Death has natural causes, like old age. There are also unnatural and preventable causes of death.

While accidents and violence cause death which can be prevented by increasing the individual's social consciousness, death due to preventable diseases is a challenge to medical as well as social sciences.

## WHAT ARE THE PREVENTABLE CAUSES OF DEATH?

***Death due to violence is preventable.***

Violence may erupt due to greed, anger, corruption, fanaticism, terrorism, communalism, etc. Unity, co-existence in harmony, mutual care and love can combat these factors.

***Death by accident is preventable.***

Accidents do not happen but are caused, due to sheer negligence and carelessness. In 1992, in the city of Madras alone, 788 persons were killed and 6100 injured in road accidents. The only answer to the problem is to be careful, observe safety norms and use safety measures.

## DEATH BY SOME DISEASES IS PREVENTABLE

***What is disease?***

The word disease means absence of or deviation from normal health. Whenever physical health is impaired and a person suffers as a result, the complaint is a disease. This can lead to physical suffering like fever, body pain, etc. Acute stages of disease can also lead to mental suffering like insanity and depression, or to social problems like maladjustment in family life.

Disease results from a complex interaction between a person (host), an agent (cause of disease) and the environment.

The first link in the chain of disease transmission is a disease agent, either living or non-living.

The next link is the host. The human host is referred to as 'soil' and the disease agent as the 'seed'. The association of a particular agent with a specific host frequently provides an insight into the cause of the disease.

The last link is the environment. The study of disease is really the study of man and his environment.

Millions of people are affected by diseases. However, we are able to prevent some diseases and completely eradicate some others.

***What is the cause of disease?***

Primitive people attributed disease and, in fact, all human suffering, to the wrath of gods, evil spirits and the malevolent influence of stars and planets. As a logical result, the kind of medicine they practiced consisted of appeasing the gods by prayers, rituals and sacrifices.

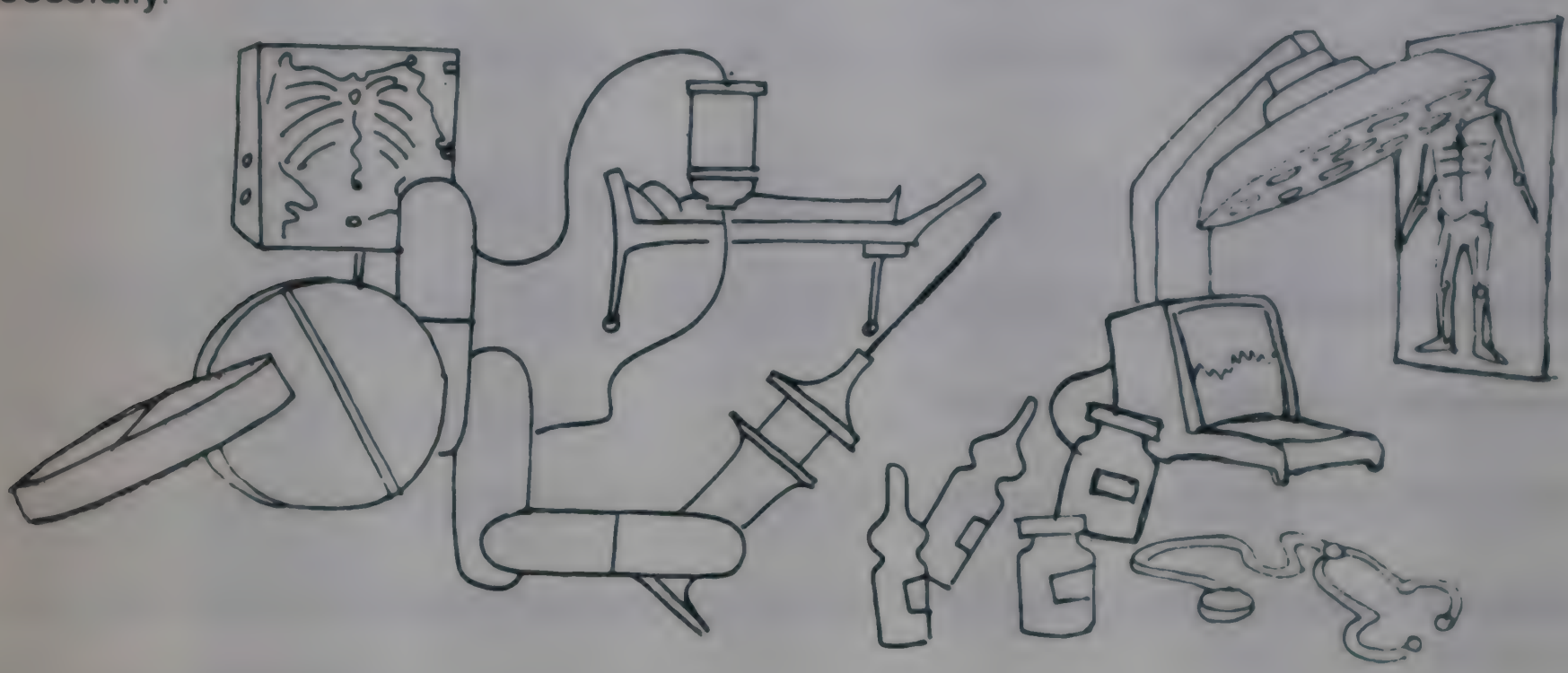
But we have come a long way since then. For a long time, man was groping in darkness to find the cause of diseases. Upto the time of Louis Pasteur (1822-1895), various ideas about causation of diseases were prevalent. The discovery of bacteria by Pasteur in 1860,

and Robert Koch's germ theory in 1877, marked turning points in concepts about disease causation.

### *Discovery of preventive medicine*

With the knowledge derived from bacteriology, it became possible to control disease. Many disease-causing organisms have since been isolated and identified. Many diseases which reached pandemic proportions in the past have been controlled through vaccines and eradicated. Some of them are rabies (1883), cholera (1892), diphtheria (1894), typhoid (1898), polio (1960) and small pox (1977).

Where vaccines were not possible, the discovery of sulpha drugs, antibiotics, anti-malarial, anti-tubercular and anti-leprosy drugs have made it possible to treat many diseases successfully.



### *Sexually Transmitted Diseases (STDs)*

STDs are a group of communicable diseases that are transmitted predominantly by sexual contact and caused by a wide range of bacterial, viral, protozoal and fungal agents. Some common STDs are syphilis, herpes and gonorrhea. These can be treated and controlled.

STDs are spread by having sex with multipartners or commercial sex workers. An individual suffering from STD can pass it on to his sex partner through sex. If not properly diagnosed and treated, STD can lead to other major illnesses like AIDS, through high risk behaviour.

HIV/AIDS is the most recently recognized STD. It is a totally new disease for which no treatment is available as yet and no vaccine has been developed to provide immunity against it. Most STDs can be treated or controlled, but not HIV/AIDS. In the case of STDs, the symptoms manifest themselves within weeks or a few months of infection; HIV may not manifest itself for many years. When HIV infection progresses to AIDS, death is certain.

## ADDITIONAL ACTIVITIES

## UNIT - I

### SEEING THE GOOD THINGS IN LIFE

This exercise helps to introduce the first chart and start a dialogue with the students. It helps youth think about their future and the importance of health.

Ask the students to think/reflect what they would be doing in a few years, what they would like to achieve and what their ambitions are.

Ask a few participants to share their thoughts with the others.

***Expected Responses:-*** Responses could be that they want to be a doctor, engineer, astronaut etc.,

Then ask them what they need in order to achieve these goals.

***Expected Responses:-*** Responses could be determination, will power, perseverance, etc.

***Keep probing till they say "Health".***

Then ask them - "If you are not healthy will you be able to achieve your goals and ambitions"?

Highlight the importance of health and how being sick would negatively affect their dreams and ambitions.

# UNIT 2

# AIDS — NATURE OF DISEASE AND ITS TRANSMISSION

**Topics covered**

| | |
|---|---|
| Chapter 3 | Nature of AIDS |
| Chapter 4 | The Immune System |
| Chapter 5 | HIV Illness and Testing |
| Chapter 6 | How HIV/AIDS Spreads |
| Chapter 7 | How HIV/AIDS Does Not Spread |

**Objectives**

1. To learn the facts about AIDS: (i) What it is and what causes it; (ii) Modes of transmission; (iii) How it does not spread — myths and misconceptions.
2. To understand how the body's immune system functions and the effect of HIV on it.
3. To understand the procedure of HIV testing and its application.

**Suggested teaching methods**

1. Brainstorming session.
2. Group discussion.
3. Flip charts to be interpreted by groups. Final summing up with the help of flip charts.

**Flip chart reference**

Numbers 3 to 10

**Activities**

1. Immune system skit
   *Purpose:* To teach how the immune system functions effectively in a healthy person and how HIV damages the immune system.*
   *Volunteers:* (i) healthy person; (ii) group of 4 to act as WBCs of immune system; (iii) 3 persons representing diseases like polio, smallpox and STD; (iv) HIV; (v) story teller.
   The story teller narrates the story which the others act out. The healthy person stands surrounded by WBCs (his/her immune system). The diseases attack one by one, trying to break through the immune system, but the WBCs fight them off. Subsequently, the person gets infected with HIV (any of the four ways could be used). HIV fights with the

* Refer for guidelines, DESH's publication, "HIV — The King of Virus", a play which has been telecast by DD Madras (18-01-1994).

WBCs and kills some of them. The immune system becomes weak and cannot fight off other infections. Eventually, the healthy person becomes very ill and dies.

2. Ask students to collect newspaper clippings and articles on HIV/AIDS, make a scrap book and bring it to class for discussion.

3. Crossword puzzle
Given below is a crossword puzzle with answers filled in for reference. The following page gives the blank crossword and clues. This may be xeroxed for distribution among the participants.

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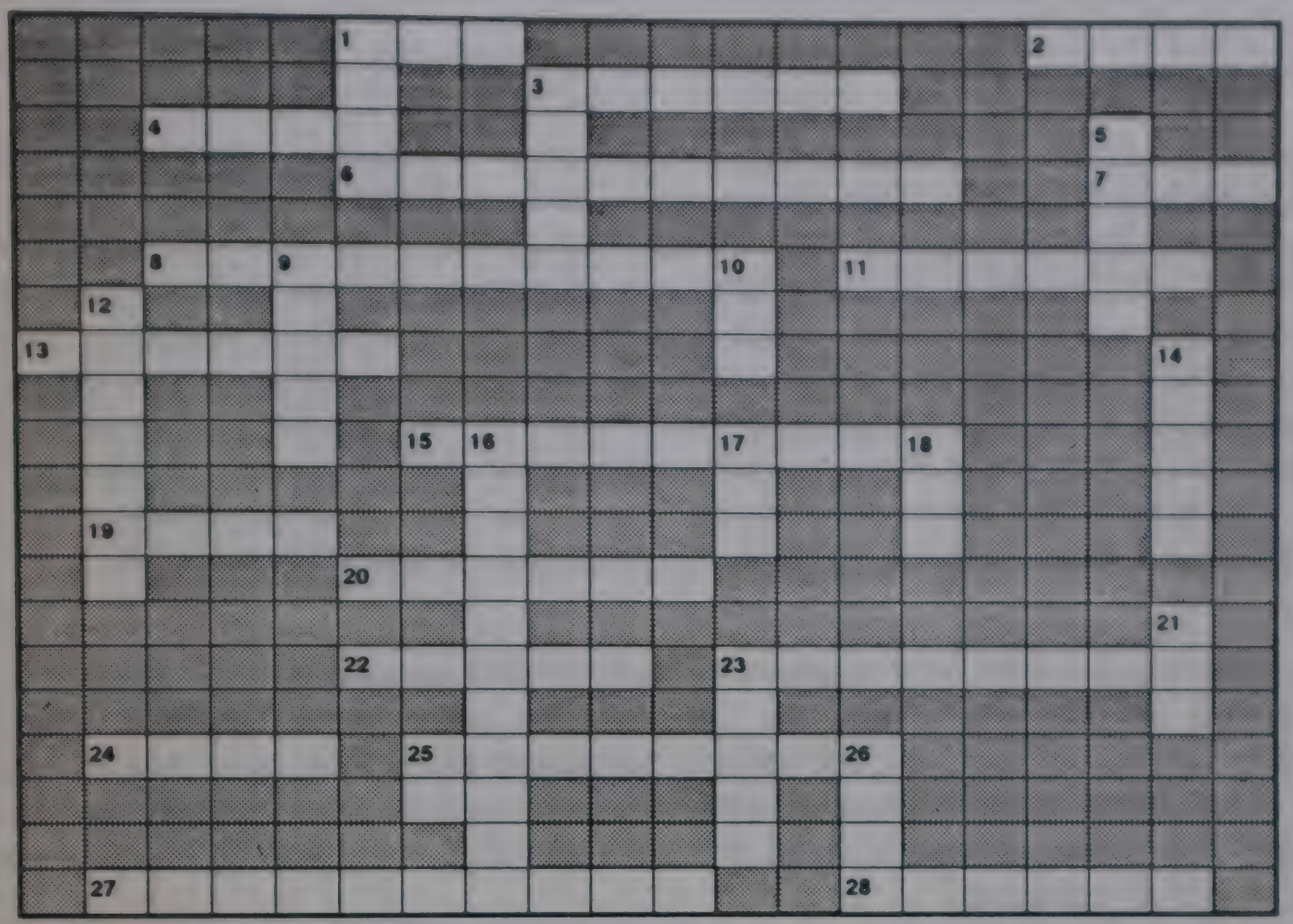
# A CROSSWORD ABOUT AIDS



**ACROSS**

1. Fever causes you to feel like this.
2. This STD kills.
3. They form antibodies in the blood.
4. It can do you good and harm.
6. Attracted to one's own sex.
7. An STD makes you feel like this.
8. They fight off disease.
11. The system attacked by AIDS.
13. His name was given to a cancer.
15. Sometimes a symptom of AIDS.
19. It is safe to be thus with HIV antibody positive people.
20. Here the disease is heterosexual, affecting men and women equally.
22. A symptom that may show at night.
23. Sometimes there may be none of these.
24. The condition to be 'in' to be safe.
25. It pays to be this way.
27. The 'T' Cell which stops the production of antibodies.
28. Carriers of HIV should NOT do this with their blood.

**DOWN**

1. Temperatures can be like this.
3. Take care with this to avoid HIV.
5. Symptoms are felt, these are seen.
9. These can detect antibodies.
10. A source of pleasure which needs care and knowledge.
12. Used for innoculations.
14. Fever may occur during this.
16. A way of taking in drugs.
17. Name for AIDS virus (abbrev.).
18. The drug currently used against AIDS, but with limited success.
21. AIDS cases were reported here in 1981.
23. A body fluid of males.
25. An abbrev. that goes with needles.
26. People with AIDS finish this way.

Adapted from Kay, K. and McLean, P. *AIDS and Other Sexually Transmissible Diseases: What Every Young Australian Should Know!* (1987) Foreground Enterprises, 14B Redgrove St, Green Point NSW 2250, Australia.

# Chapter 3: NATURE OF AIDS

## 3.1 WHAT IS AIDS?

AIDS, the chilling acronym for Acquired Immune Deficiency Syndrome, has become well-known during the last decade. In 1981, doctors from California reported the occurrence of a rare type of pneumonia in healthy homosexual men, caused by an organism called Pneumocystis Carinii, which is normally harmless to healthy humans. More and more cases came to light and it was observed that such individuals were also developing a rare form of skin cancer. It seemed as if these people had acquired a disorder of their immune system which broke down their body's defence mechanism, making them prone to these rare illnesses. Since then the disease has been identified as Acquired Immune Deficiency Syndrome. This marked the beginning of one of the biggest public health problems of this century, which has swept across the whole world, assuming pandemic proportions.

AIDS is the end stage of a progression of infection caused by a virus called the Human Immune Deficiency Virus — HIV. HIV destroys the body's immune system and allows otherwise controllable infections to invade the body and cause additional diseases. Being infected with the AIDS virus, the body is not able to fight off these infections. Any of these "opportunistic infections", which would not otherwise be a major problem, may result in a serious illness and eventually cause death. People with AIDS die of rare types of cancer, pneumonia and other infections.

***What do the words Acquired Immune Deficiency Syndrome mean?***

*Acquired* means "to get". AIDS is acquired from other people who have the virus. It is not passed on genetically.

*Immune* means "protected". The body is normally immune to many diseases.

*Deficiency* means "a lack of". With AIDS, the body has a lack of immunity against many diseases.

*Syndrome* means a group of signs and symptoms. AIDS is not one single disease. When people have AIDS they have symptoms of many diseases.

*Immune Deficiency* describes the state in which the body's immune system is depleted so that it is unable to defend itself against infections.

## 3.2 WHAT CAUSES AIDS?

AIDS is caused by a virus called the Human Immune Deficiency Virus (HIV). HIV belongs to a family of viruses known as retroviruses. The virus is 10,000th of a millimeter in diameter. It is a protein capsule which looks like a curled up porcupine. It contains two

single strands of RNA and an enzyme called reverse transcriptase. This enzyme helps to convert its RNA into DNA.

The virus is able to spread throughout the body. It can pass through the blood brain barrier and infect the brain cells.

***How does the virus multiply?***

HIV uses the human cells to multiply itself. On entering the white blood cells known as T4 (helper T cells) the virus shows its true colours. Its RNA is converted into DNA and this is inserted into the DNA of the host cell (ie, the T4 cell). The viral DNA has enough power and information to direct the destiny of the cell. The T4 cell becomes a virus factory, producing several new copies of HIV. However, the virus lies inactive in the host cell for many years before beginning its process of destruction. Scientists have yet to explain exactly how and why the virus remains dormant in the cells for a long time and then suddenly become more virulent.

***Where does the virus live?***

The virus has been found in the greatest concentration in blood, semen and vaginal fluids. Traces have been found in tears, saliva, sweat and breast milk. However it has been proved conclusively that HIV can be transmitted *only through blood, semen and vaginal fluids.*

***Where did AIDS originate?***

AIDS is caused by the virus HIV, but it is not known where this HIV originated. The two most likely theories are that either the virus "jumped" species from another animal to infect humans, or that it has been in existence in some isolated population groups.

***Why do some people believe that the disease came from Africa?***

This may be due to the fact that some blood samples, dating back to the late 1950's, apparently tested positive for HIV. Also, HIV is similar to a virus found in some African monkeys. But it is very difficult to go back in time and make any conclusive deductions.

***How can there suddenly be a disease that never existed before?***

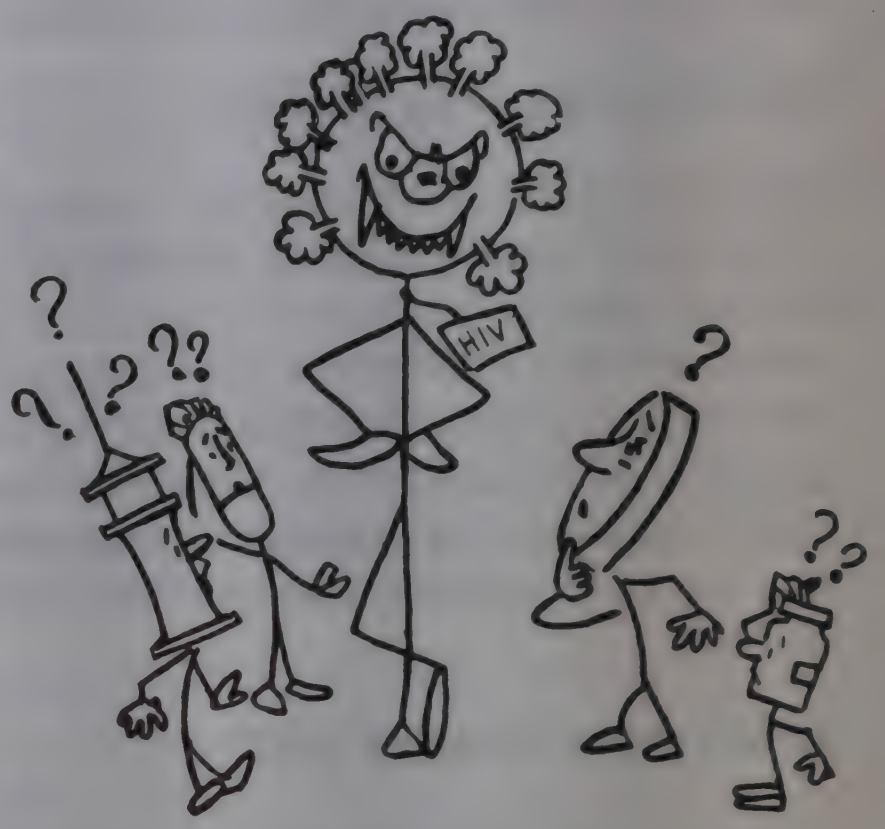
AIDS as a world-wide epidemic is something new. But the disease and its virus are not new. We know that virus sometimes change. A virus that was once harmless can change and become harmful. This could have happened with HIV.

Researchers believe that the virus was present in isolated population groups years before the epidemic began. People moved and settled in big cities. Life styles changed, including patterns of sexual behaviour. It became easier for HIV to spread through sexual intercourse

and contaminated blood. As the virus spread, the isolated disease already existing became a new epidemic.

### 3.3 CAN AIDS BE CURED?

No. At present there are no drugs available that will completely destroy the AIDS virus or restore the immune system once it is damaged. An experimental drug, azidothymidine (AZT) which seems to control the multiplication of the AIDS virus, has prolonged the lives of some AIDS patients in trials. Still experimental, AZT has only recently been made available to some people with AIDS.




Even though researchers world-wide are working hard to find a cure, the discovery of an effective treatment is not expected soon. There seems to be some progress in developing treatment for the "opportunistic diseases", but it is much more difficult to develop a drug that can kill the AIDS virus itself.

### 3.4 IS THERE A VACCINE AGAINST AIDS?

As yet, no vaccine which can give protection against AIDS has been discovered.

***What are the obstacles in developing a vaccine?***

There are many obstacles. An analogy can be used to illustrate this: Let us imagine we are trying to defend our country against an enemy attack. The enemy soldiers wear different uniforms and change their appearance very often (different strains of the virus), so that we cannot identify them. The enemy can enter our territory in innocent-looking vehicles (infected cells). Even when we can recognize the enemy, we do not know what kinds of weapons (vaccine) will be effective against him.

***Will there be a vaccine against AIDS?***

There is a possibility that a vaccine to prevent HIV infection in humans could be developed within the next ten years. Vaccine trials are being carried out in several parts of the world. Even if a vaccine is found, it will take many more years for it to be made easily available.

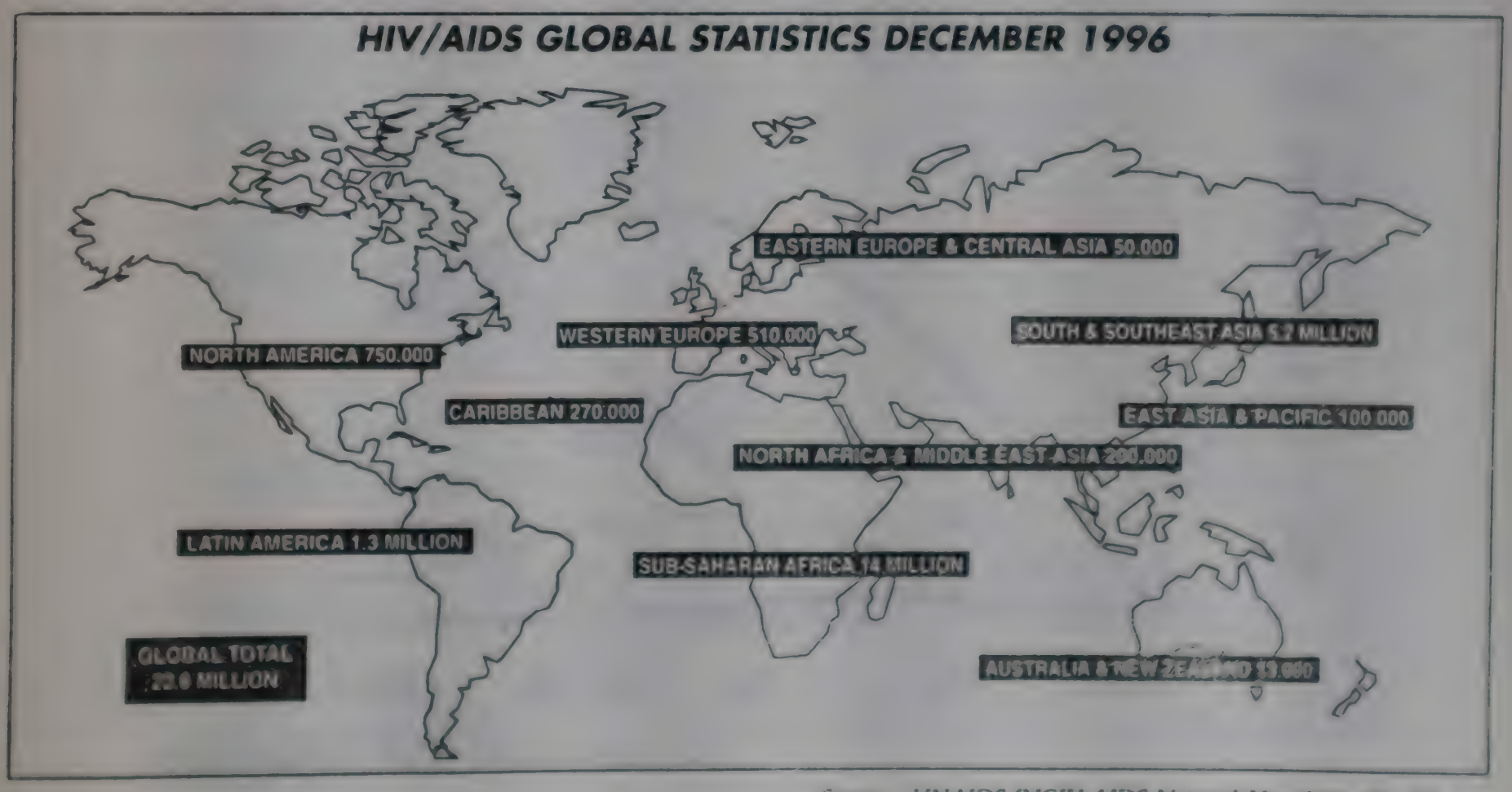
***Why is preventive education about AIDS important?***

Until a vaccine or cure for AIDS is found, the only weapon we have against AIDS, at present, is *knowledge*.

AIDS is not curable, but it is 100% preventable. Armed with the facts, anyone can protect himself against AIDS. It is what we do, not who we are, that puts us at risk. The virus is spread almost entirely through activities which we choose to pursue or avoid. In order to make informed choices about our life style, we need to know as much as possible about the disease and its prevention. It can be prevented simply by avoiding behaviour that results in the infection.

*Education* about AIDS can prepare individuals to protect themselves. In the absence of any cure, education is the only solution to help individuals make life-saving decisions.

## 3.5 AIDS: THE CURRENT SCENARIO


HIV/AIDS GLOBAL STATISTICS DECEMBER 1996
EASTERN EUROPE & CENTRAL ASIA 50,000
WESTERN EUROPE 510,000
SOUTH & SOUTHEAST ASIA 5.2 MILLION
NORTH AMERICA 750,000
CARIBBEAN 270,000
EAST ASIA & PACIFIC 100,000
NORTH AFRICA & MIDDLE EAST ASIA 200,000
LATIN AMERICA 1.3 MILLION
SUB-SAHARAN AFRICA 14 MILLION
GLOBAL TOTAL
22.6 MILLION

*Source : UNAIDS (NCIH AIDS Network Newsletter No. 42)*

***HIV/AIDS: THE WORLD SITUATION*** *(as of December 1996. Shown in map on preceding page.)*

Although the first cases of AIDS were reported from the USA, the disease spread rapidly across the world. No country has been spared the onslaught and AIDS has now assumed pandemic proportions. As of 1st October 1991, over 418,404 cases of AIDS had been reported to the WHO from 163 countries including India. By mid-1992, this figure had shot up to 501,361 cases of AIDS. Of these 277,042 were in the American region, 151,455 in the African region and 1216 in the South-East Asian region. Taking into account the delays in reporting, under-diagnosis and under-reporting, UN AIDS estimates that as of now, globally, a total of 22.6 million persons are living with HIV. According to an estimate, 8500 people may be getting infected with HIV every day.

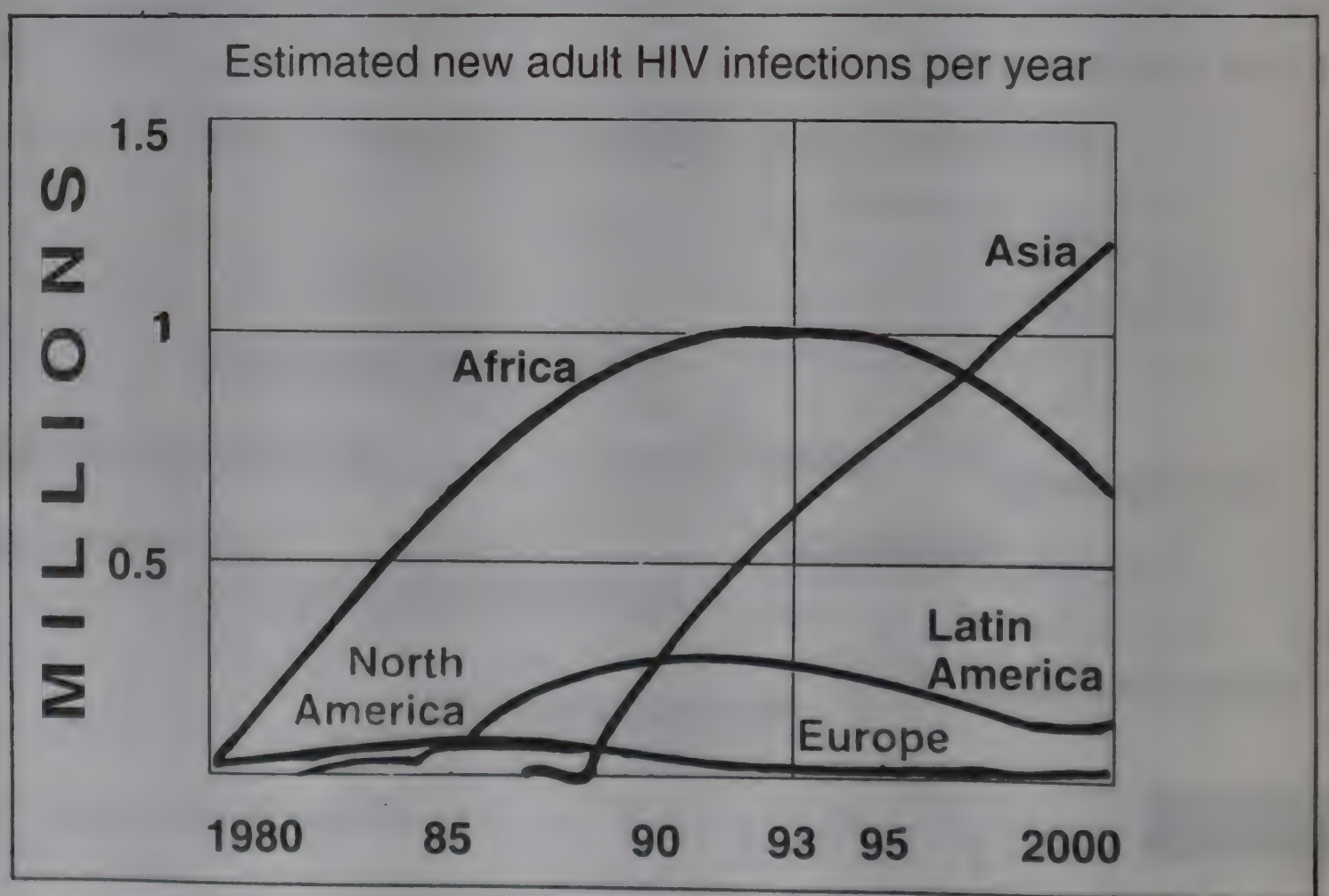
Reported HIV / AIDS Global statistics

| | | | |
|---|---|---|---|
| New HIV infection in 1996 | 3.1 million | People living with HIV in 1996 | 22.6 million |
| New HIV infection in 1996 (women) | 1.4 million | AIDS related deaths in 1996 | 1.5 million |

*Source : UN AIDS { NCIH Network } Newsletter No.42.*

WHO projects that by the year 2000 globally a total of 30 to 40 million men, women and children will have been infected with HIV and nearly one-fourth of them in Asia. There will be over one million adult cases and deaths every year. A majority of these deaths will be in developing countries - about a half million in Africa and a quarter of a million in Asia.

This graph represents estimated new adult HIV infections every year, in the absense of AIDS control activities. If this situation continues, Asia will soon be in a worse crisis than Africa. This underlines the need for urgent action.




*Source: World Health Organisation*

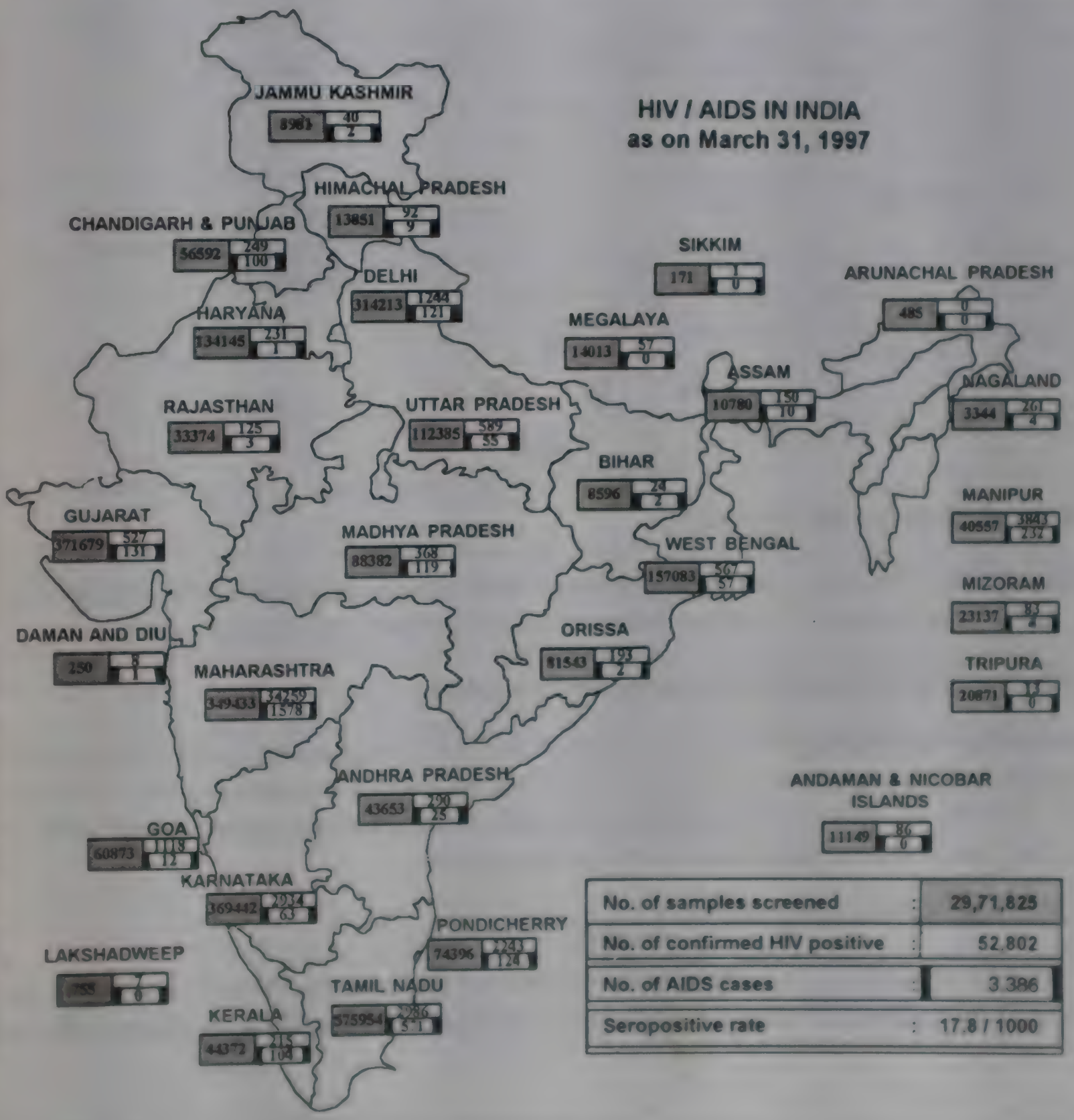
Period of Report upto: 31st March, 1997

| | | |
|---|---|---|
| No. of Samples screened | : | 2971825 |
| No.of Confirmed HIV Positive | : | 52802 |
| No. of AIDS Cases | : | 3386 |

*(Source: NACO, Ministry of Health & Family Welfare, Govt. of India)*

The first AIDS case was reported in India in May 1987 from Bombay. The source of infection was traced to blood transfusion during coronary bypass surgery in the USA. Since then reports have come in from all parts of the country and the number of cases is ever increasing. As on 31.03.97 Maharashtra had the largest number, followed by Tamil Nadu. The sero positivity rate is now 17.8/1000.

The map below gives the break up of cases in all States and Union Territories of India.

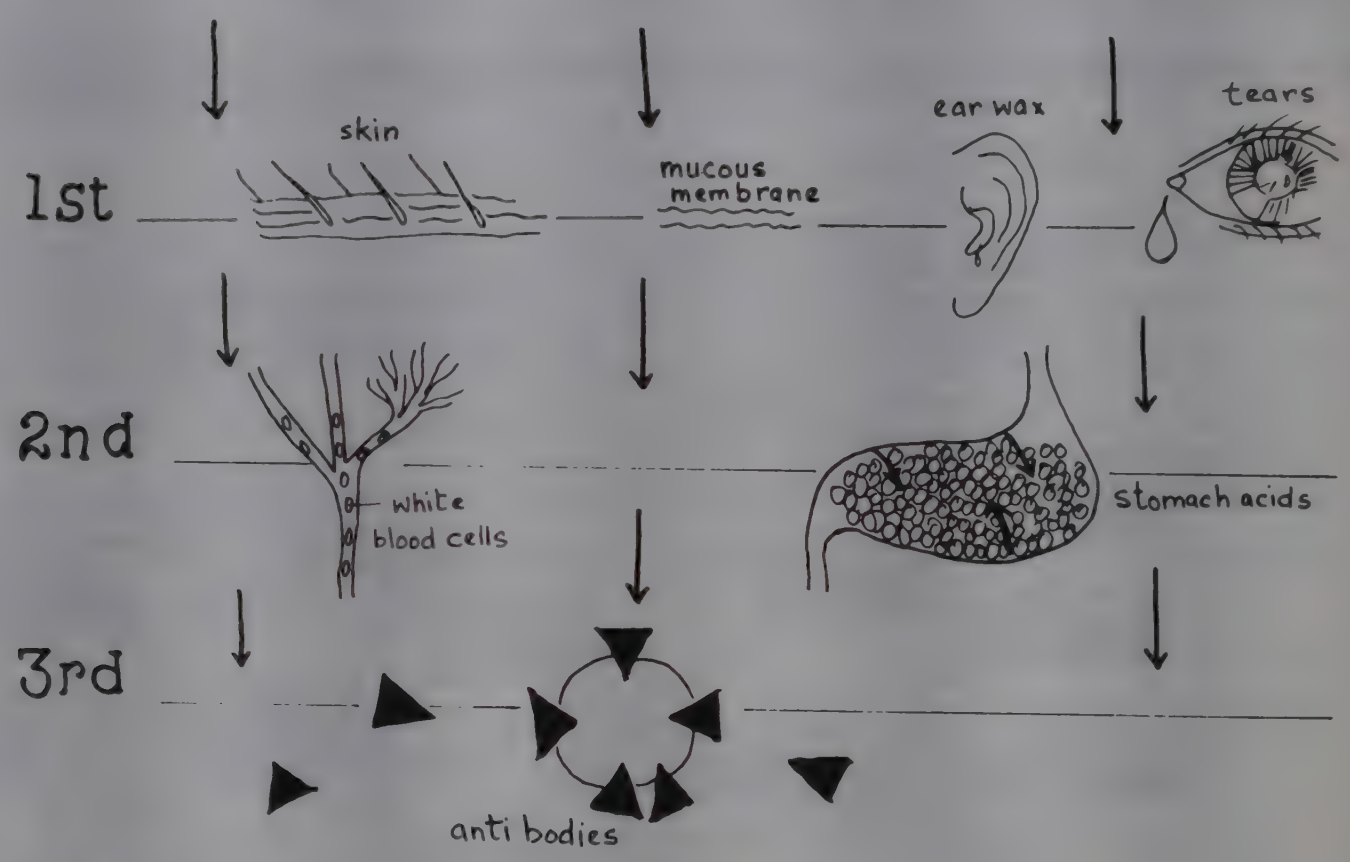


# Chapter 4: THE IMMUNE SYSTEM

## 4.1 WHAT IS IMMUNITY?

We are all exposed to many disease-causing germs, but only a few of them can actually cause disease. This is because of our body's defense mechanism.

Immunity is that condition existing in the body which protects it against certain diseases. It means that the body has resistance against a disease-causing germ. There are three lines of defence as described below:




***First line of defence (mechanical)***

The first line of defence includes unbroken skin, mucous membrane, nasal secretions, tears, saliva and earwax. These serve as physical barriers against antigens.

***Second line of defence (biochemical and cellular)***

The cells that constitute the immune system include phagocytes (cells that engulf germs) leucocytes (WBCs) and macrophages. The body mobilizes the second line of defence if an antigen attacks it. The battle inflames the infected areas. Pus (destroyed cells and antigens) may accumulate and move to the lymph nodes.

***Third line of defence (acquired)***

The third line of defence is primarily composed of antibodies. When an antigen enters it, the body is stimulated to acquire antibodies which then identify and destroy the antigen.

Some antibodies remain in the blood and provide protection from future attacks by the same antigen. For example, a person who has had mumps or chicken pox is unlikely to have that disease again, because the body has acquired immunity from it.

## 4.2 IMMUNE SYSTEM AND PROBLEMS

Sometimes a body can have a weak immune system. Even minor infections can become life threatening. Some people are born with immune deficiency. Some people acquire immune deficiencies, for example, by contracting HIV or by using immune suppressant drugs after a surgical transplant.

**Case study: The importance of the immune system**

Some children are born without an immune system. David was one such child. He lived his life in a sterilized plastic bubble because his body was unable to fight off any infections He was given sterilized food to eat and there were many things which he could never eat. He breathed filtered air. He was given protection from all germs. He never became ill, but he could never be touched by another human being as long as he lived, not even by his mother and father. He was not able to play any games, go to school, or do anything a normal child could do.

When David was twelve years old, his parents and doctor decided to take a risk and let David lead a normal life outside the plastic bubble. He was given bone marrow transplants to build up his immune system. Unfortunately, David developed cancer and died four months later.

### *How does a healthy immune system function?*

In a healthy person, infections are kept away by the co-ordinated efforts of an array of defender cells in the body which constitute its immune system.

These defenders — the white blood cells — are at work every day, recognizing foreign invaders and destroying them, both by recruiting an army of cells which attack the infection directly and by producing specific chemicals called antibodies which inactivate the invaders.

We can consider the immune system to function at these levels:

*At ease:* Our immune system is made up of several groups of white blood cells — the T4, T8 and B cells. Each has a specific role to play in identifying and destroying harmful agents and infections. When there is no foreign antigen present the immune system is at ease.

*Alert and ready:* When an invader attacks a healthy body these cells begin their work. The T4 cell is crucial to the process. It alerts the B cells and T8 cells to the presence of a foreign body and signals for the attack to begin. B cells multiply and get ready to produce antibodies. T8 cells have a dual role: they help destroy the invader; once the battle is over, they shut off the immune system.

*In action:* In a joint attack the cells move in for the kill, while the B cells send in antibodies which bind themselves to the invader and help to destroy it.

*Triumphant:* The invader is destroyed and infection comes to an end. The T8 cells tell the B cells they can stop producing antibodies. The immune system returns to its normal state, with some differences: Some T cells and B cells take on a new role as memory cells. They will get back into action should the same invader try to attack again.

## 4.3 HOW DOES HIV BREAK DOWN THE IMMUNE SYSTEM?

When HIV attacks the body, it infects the helper T-cells. At first it blocks their ability to recognize foreign substances, then it changes the helper T-cells to virus producing factories.

On entering the body, the virus seeks out white blood cells and locks on to them before making its way inside. So WBCs become victims instead of attackers. The virus sheds its outer layer and injects the core containing genetic material into the cell. Once inside the cell, the virus knits itself into the genetic material belonging to the T4 cell, turning the T4 cell into a factory that produces several new copies of the virus. The newly-produced HIV escape from the cell by punching holes in the T4 cell membrane, thereby destroying it. Out in the bloodstream, these viruses can now infect several new T4 cells.

HIV sometimes takes a long time to do its damage. The virus can be carried in the body for a long time without causing any symptoms of illness. It remains in hiding for several years until stimulated to multiply and come out of the cell.

This newly formed virus makes its way to other cells, attacking them in the same way and setting in motion its devastating destruction of the immune system.

Because it is able to lie undetected, it escapes being attacked by antibodies which are circulating in the blood. This dangerous game of hide and seek comes to an end when so many cells are destroyed that the body falls prey to opportunistic infections and cancers.

HIV destroys the very system that was designed to destroy it.

***The collapse of the immune system***

Let us compare the havoc wrought by HIV to destruction caused by termites (white ants).

| *A house with termites* | *A body with HIV* |
|---|---|
| A house was built 20 years ago. Strong wood was used. | A baby was born, strong and healthy. He grew up to be a 20-year-old strong young man. |
| Some years later termites invade the house and enter into the wood. No one knows when they came or from where they came. There are no apparent signs that they are at work inside. The house still looks strong and sturdy. | HIV enters the person's body. The person himself does not know he is infected. There are no signs or symptoms to show that he is infected. He still looks healthy and normal. |
| The problem becomes more serious. The termites have eaten into the pillars that hold up the house. | But the immune system is weakened. |
| A cyclone comes. The house is struck and it collapses. The house had weathered many storms before. So people are wondering why the house could not withstand this storm. Then, in the ruins, they find that the white ants have been at work inside. | Many diseases attack the body and it succumbs to the attack. It had been able to fight off these diseases in the past. But, as the immune system is totally destroyed by HIV, it cannot ward off this attack. |

# Chapter 5: HIV ILLNESS AND TESTING

## 5.1 STAGES OF HIV ILLNESS

There are different stages of HIV infection that occur before one actually develops AIDS. The Center for Disease Control (CDC), Atlanta, USA, has classified HIV into four different stages. These are not necessarily present in all patients with HIV infection and may not occur in the same order.

***Stage I: A healthy person infected with HIV***

Around the time of infection, some persons have a short illness similar to glandular fever. After this most infected persons remain healthy with no signs of illness for several years. However such a person is a carrier and can infect others through blood, semen and vaginal secretions, without being aware of the danger.

***Stage II: Asymptomatic stage***

Between six weeks to three months after infection, most persons infected with HIV produce antibodies against the virus. Only a blood test can detect these antibodies. This stage is characterized by an absence of illness or symptoms for a long period. People remain asymptomatic, healthy and indistinguishable from others for varying periods — from three months to over 12 years.

***Stage III: Illnesses associated with HIV infection may appear***

A person infected with HIV may begin to show signs of illness after six months or after many years (10 to 12). These signs are common to many illnesses and cannot be used by themselves to diagnose AIDS. They are also common in people with immune deficiency which can be caused in a number of other ways: malnutrition, cancer, reaction to certain drugs.

Some persons may develop a generalized swelling of the lymph nodes, particularly at the back of the neck and in the armpits.. This is known as persistent generalized lymphadenopathy (PGL). Some HIV infected persons have symptoms such as fever, weight loss, diarrhoea or fungal infection in the mouth. They are said to have AIDS Related Complex (ARC). ARC is characterized by the following clinical signs:

***Major signs***

1. Unexpected weight loss of more than 10% body weight
2. Prolonged diarrhoea
3. Unexplained fever lasting more than one month

***Minor signs***

1. Breathlessness
2. Fatigue
3. Night sweats
4. Swollen lymph glands
5. Persistent cough.
6. Recurring skin infections — herpes, shingles, thrush.

A person can be said to have AIDS if he/she has two or more of the above major signs with at least one of the minor signs.

***Stage IV: The AIDS stage***

Patients may suffer from life threatening opportunistic infections. These fall into three main categories, affecting the lungs the gastro-intestinal tract and the nervous system.

*Lung infections:* most common are pneumonia and TB.

*Gastro-intestinal infections:* causing severe diarrhoea lasting many weeks.

*Brain infections:* causing mental confusion, severe headache and fits.

*Cancers:* particularly a skin cancer called Kaposi's Sarcoma, Non Hodgkin's lymphoma and primary lymphoma of the brain.

Episodes of opportunistic infections can be successfully treated with anti-infectious drugs. The patient may appear to be in good health again. However, the immune deficiency is still present. The person remains susceptible to recurring and increasingly serious episodes of opportunistic infections which eventually do not respond to treatment.

Cases of TB are more likely to escalate because of the HIV epidemic. In a country like ours, where TB is rampant, the increase in the number of HIV related cases of TB has serious implication for both TB and AIDS control programmes.

Opportunistic illnesses herald the onset of AIDS in a HIV-infected person. AIDS itself represents the most severe stage of HIV infection.

***Will everybody who has HIV infection develop AIDS?***

Estimates of the number of HIV-infected persons who go on to develop AIDS vary. It is currently impossible to predict which patients with HIV infection will develop AIDS.

***Will everybody who has AIDS die?***

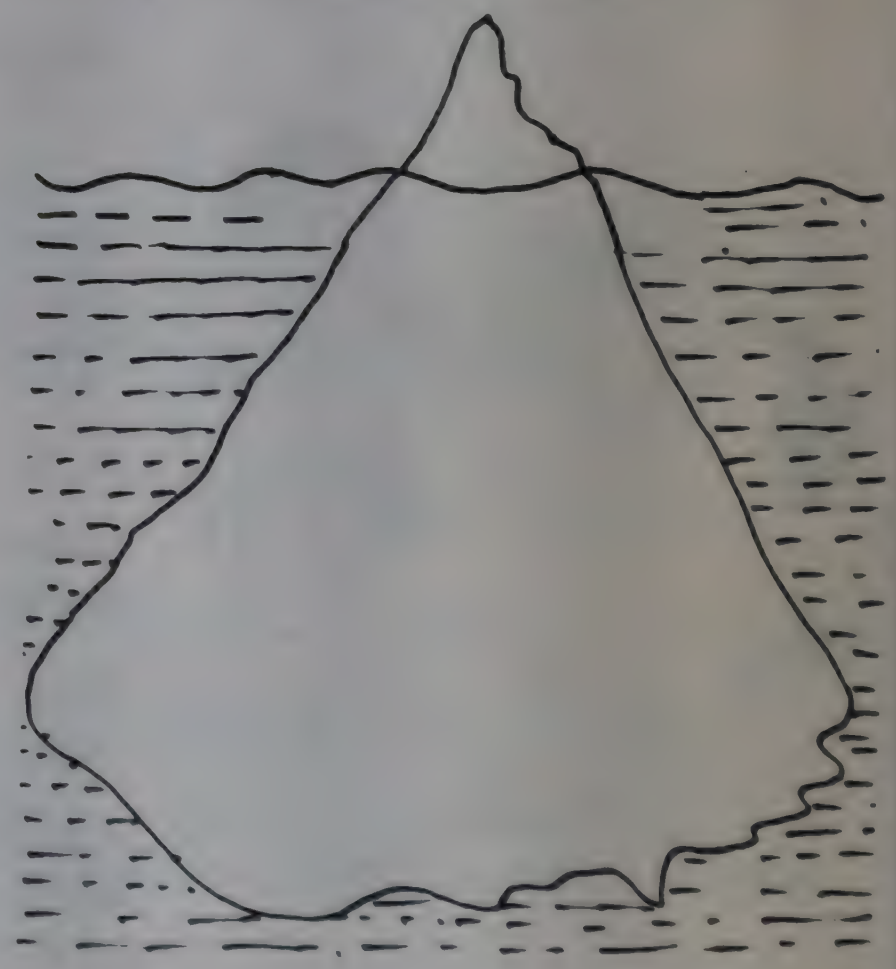
It is too early to answer the question whether anyone will ever survive AIDS. Persons who develop AIDS respond differently. Some are very ill throughout the course of the condition. Most die within two years. Others have alternating periods of good health and illness for several years. Eventually, all persons who develop AIDS will probably die of it.

***Why do some infected individuals develop AIDS earlier while others remain healthy?***

Though asked frequently, the answer is unknown for virtually all infectious diseases.

## 5.2 THE ICEBERG EFFECT

An iceberg is a huge mass of floating ice of which we can only see the tip. Most of it remains submerged. HIV infection in a population can be compared to an iceberg. Only a small portion is visible. We can, however, estimate the extent of its spread from the visible portion as follows:



For every person known to be sick with AIDS, several more are sick with AIDS-related illnesses, and many more have HIV infection.

As time passes, the true picture will emerge. People with HIV infection will develop AIDS and related illnesses. The epidemic will become more visible.

## 5.3 HIV TESTING

HIV antibody tests are conducted in two steps: (1) Screening (ELISA) and (2) Confirmatory (Western Blot).

*ELISA* is a standard blood test for HIV infection and stands for Enzyme Linked Immunosorbent Assay. It is widely used to screen individuals and for large numbers of blood samples as in a blood bank. ELISA is easy to perform and requires very simple equipment. It uses the patient's serum to identify HIV antibodies through colour reaction testing in which the virus particles are fixed on to a plastic plate and the antibodies, if present in the serum, will bind to HIV antigen. This complex will fix the added secondary reagent, resulting in a colour change. If antibodies are present the test result is then considered positive.

*Western Blot confirmatory test:* To reduce false positive HIV antibody results, a second antibody detection is generally used as a confirmatory test. In Western Blot (W.B.) the HIV grown in culture is purified, disrupted, denatured and electrophosed on gels. These proteins are then transferred on to strips of nitrocellulose membrane paper. This paper, which contains the viral proteins, is incubated first with the patient's serum and then with a secondary detecting antibody. If antibodies are present this will appear as a band on the paper, only at locations where HIV proteins are specific and sensitive. This test is considered a standard in HIV antibody detection.

***What do HIV tests tell us?***

Most tests do not detect the virus itself since this is a very complicated, expensive procedure. Commonly used tests detect the virus indirectly by demonstrating the presence of antibodies to the virus produced by the immune system.

After initial infection with HIV, it takes time for antibodies to be produced and to be detectable — usually six weeks to three months. During this window period, the HIV antibody test will be negative even though the infected person's blood, semen or vaginal fluid are infectious to others. The window period makes it necessary that blood must be donated from sectors of the adult population which are considered to be at no risk or low risk from HIV.

Testing of individuals should only be done with informed consent, and with adequate pre- and post-test counselling. At least one positive confirmatory test is needed before a result is made known to the individual concerned.

***The positive result***

A positive result means that antibodies to HIV have been found in one's blood. This indicates that infection with HIV has occurred.

A positive result does not mean that one has AIDS. It does mean, however, that the

individual is infectious and can pass the virus to other people even though he/she may look and feel well.

*Remember:* the virus can be passed on only through sexual contact with an infected person, by receiving HIV infected blood, or through contaminated needles. If a person has HIV, he/she cannot infect someone by ordinary, everyday contact.

A person who tests positive should:

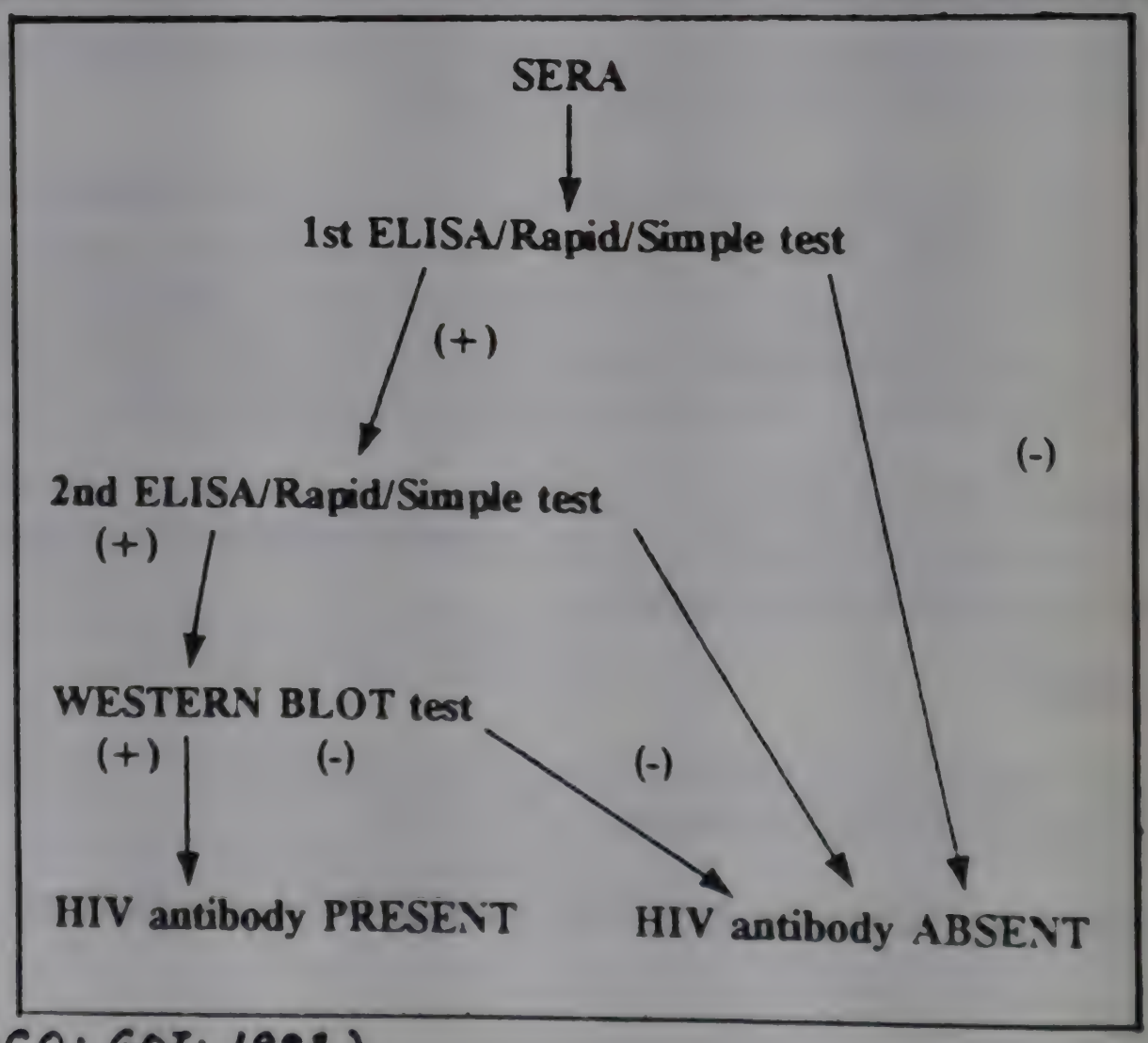
Not donate blood
Practice safe sex
Avoid conceiving / Seek counselling before conceiving
Avoid high risk life style.

***The negative result***

A negative result means that antibodies to HIV have not been found in the blood and indicate that the person probably has not been infected with the virus. However, it can take two to three months and sometimes longer, from the time of infection, for antibodies to show up in a blood test. So wait for at least three months and repeat the blood test.

*Remember:* a negative result does not mean one cannot become infected in the future if one puts oneself at risk.

EXISTING LABORATORY TESTING USING WESTERN BLOT ASSAY




Source: (NACO; GOI; 1993)

# Chapter 6: HOW HIV/AIDS SPREADS

## 6.1 MODES OF TRANSMISSION

There are four ways in which the AIDS virus is transmitted.

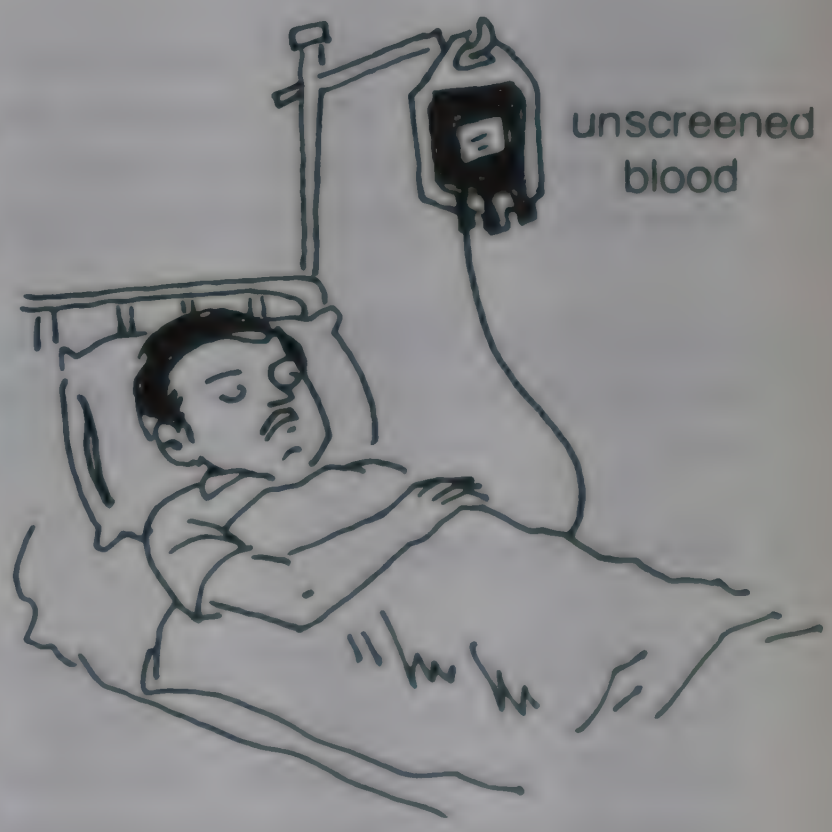
1. ***Sexual contact with an infected person***

HIV can be transmitted by sexual intercourse (vaginal or anal) with any infected person. During such contact, HIV can enter a person's blood stream through the vagina, penis or anus. The exchange of virus from an HIV infected person to an uninfected person can happen from man to woman, from woman to man or from man to man.

The risk of infection is greater if either partner has another sexually transmitted disease such as syphilis or herpes, where a sore or lesion is present. Semen or vaginal secretions of an HIV infected person can come into contact with open sores or ulcers on or near the genitals of the partner and it is easier for the virus to pass into the other person's body.

2. ***Blood to blood contact***

(i) Receiving blood from another person infected with AIDS virus.
(ii) Receiving organs or tissue that are infected with HIV.




If donated blood is not screened for HIV infection, transfusion carries the risk of contracting the virus.

HIV is transmitted by use of infected blood and blood products in blood transfusions. Before extensive testing of blood existed, persons who had to have repeated blood transfusions, such

as those suffering from sickle cell anaemia or haemophelia, were exposed to infected blood, and HIV has spread extensively amongst such persons.

Today, blood is being tested rigorously for HIV. If one is not sure whether blood is being tested in one's area, one should ask at the health centre, dispensary, or clinic. People who are at high risk of HIV infection should not donate blood since they may pass on their infection to persons receiving the blood.

However, one cannot get HIV infection by giving blood. The blood-taking equipment is sterile. Also, blood is being removed from, not being injected into, one's body as in the case of transfusion.

3. ***Instruments***

(i) By sharing needles or using unsterilized needles (for injections).

(ii) By using unsterilized instruments that cut the skin (for circumcision, scarification, tattooing, ear piercing, etc.).

Because injecting drug users draw up blood into the needle and syringe when they inject, sharing needles becomes a very risky activity and has caused many cases of HIV infection. The used needle that has not been properly sterilized can carry the virus from an infected person to the next user of the needle.

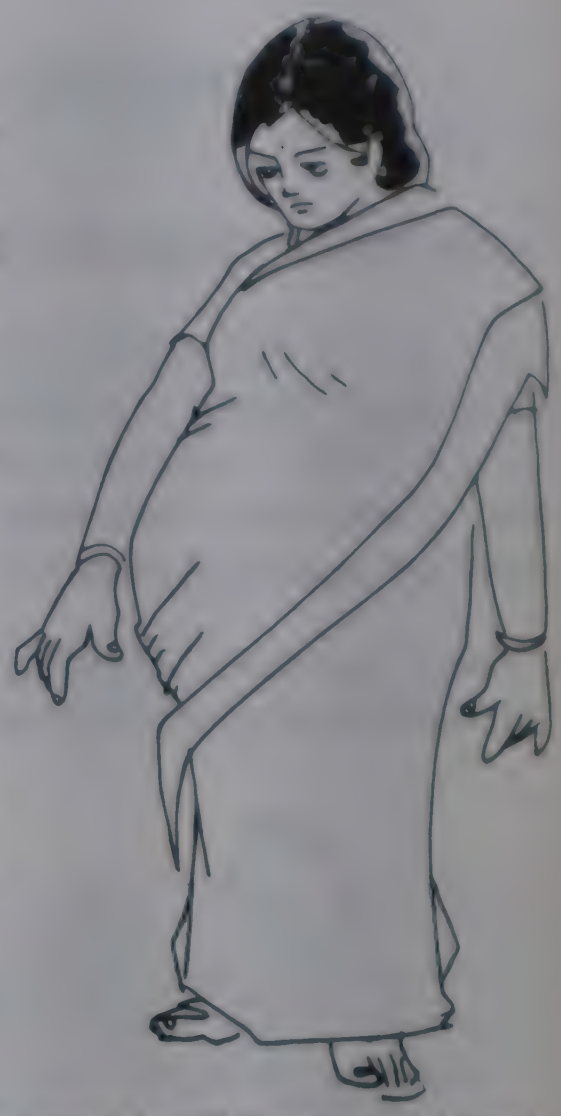
There is also a risk of transmission if unsterilized hypodermic needles or other medical implements are used, including those used in traditional circumcision or scarification such as tattooing and ear piercing. Tools used for any such procedure that cuts the skin should be sterilized before each use.

**Ear piercing, dental treatment, tattooing and acupuncture are not safe if the equipment used is not sterilized. It is also not safe to be shaved by a barber using an unsterilized razor.**

4. ***Mother to child***

An HIV positive mother can transmit the virus to her unborn or new born child, either before or during the birth process. Pregnant women who have no signs of infection with HIV seem to have a very small likelihood of transmitting the virus to their babies, while the risk of transmission increases when a mother is infected with HIV.

The question of the relationship between breast feeding, breast milk and AIDS is important. World wide, roughly one-third of babies born to HIV infected women become infected themselves, with this rate varying widely in different populations. Much of this mother to infant transmission occurs during pregnancy and/or delivery.



The large majority of babies breast fed by HIV-infected mothers do not become infected through breast milk. Breast feeding saves lives. It provides nutritional, immunological, psycho-social and child spacing benefits. Breast feeding helps protect children from dying of diarrhoeal diseases, pneumonia and other infections. It is imperative that women, with or without HIV, should not practice a high risk life style during the breast feeding period.

## 6.2 HOW TO AVOID HIV/AIDS

Even if we had a medical solution to AIDS, preventive education would still be considered the best way to control the virus. People can reduce the risk of contracting the AIDS virus by taking the following precautions:

1. Abstaining from intimate sexual behaviour. This is the surest way of avoiding AIDS.

   Practising sexual faithfulness.

   Practising safer sex and using condoms to avoid exchange of blood, semen or vaginal secretions.

2. Drug users should not share needles and syringes.

   Clinically, injections are often unnecessary, as many useful medicines can be taken orally. Where injections are necessary, they should be given only by a trained person, using either disposable needles and syringes or properly sterilized ones.

3. Ensuring safe blood for transfusions.

   Increasing voluntary blood donations.

4. There is a 30% chance that a woman with HIV infection will give birth to a baby who is also infected. Hence infected women should avoid conception.

# Chapter 7: HOW HIV DOES NOT SPREAD

## HOW INFECTIOUS IS HIV?

HIV is not like other communicable diseases. HIV does not spread through sneezing, coughing, eating or drinking from a common utensil, or merely being around a person with HIV infection. Casual contact with people with HIV infection does not place others at risk. No cases have ever been found where HIV has been transmitted through casual contact with a household member, relative, co-worker or friend.

There are kinds of human contact that do not pass on HIV from one person to another. HIV/AIDS does not spread by:

Using someone else's clothes;
Living with and/or sleeping in the same room as a person with HIV/AIDS;
Playing with a child who has HIV/AIDS;
Sitting next to a child in a classroom or travelling next to him/her;

Caring for the children of an adult who is HIV positive;
Swimming in a swimming pool, river or water hole with a person or persons infected with HIV;
Travelling in crowded buses with a person or persons infected with HIV;
A person with HIV/AIDS coughing or sneezing on one;
Caring for someone who has developed AIDS, when basic good hygiene is observed (However, if the person with AIDS also has active TB, he or she should be prescribed medicine for TB so that it will not be infectious.);
Giving first aid when good safety practices are followed;
Donating blood if one is not HIV positive.

There are certain common questions as to how HIV/AIDS does not spread.

***Can kissing pass on HIV?***

There is no risk from dry kissing. Deep kissing would only carry a risk if there was an exchange of blood from a HIV+ person to his or her partner. Bleeding might occur because of damage caused to the skin or mucus membranes around the mouth. Saliva does not contain HIV in sufficient quantities to be infectious.

***Can one get HIV infection from public toilets, drinking fountains, restaurants, telephones or public transportation?***

HIV is NOT transmitted through air, food or water or by touching any object handled, touched or breathed on by a person infected with HIV.

***Can one get HIV by touching someone who has it?***

There is no evidence that HIV spreads through any form of casual contact including hand shaking, bumping together in crowds or even casual kissing or hugging.

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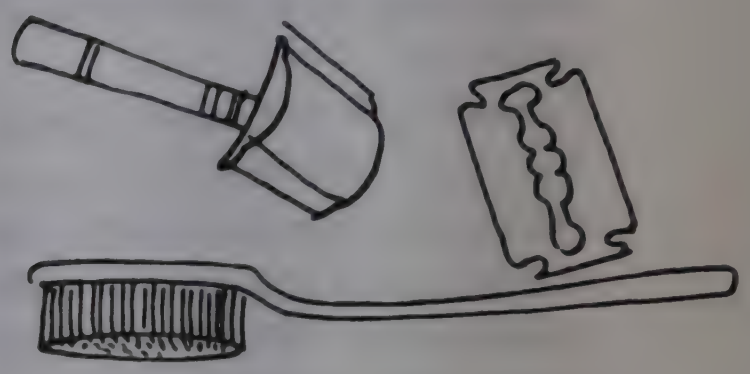
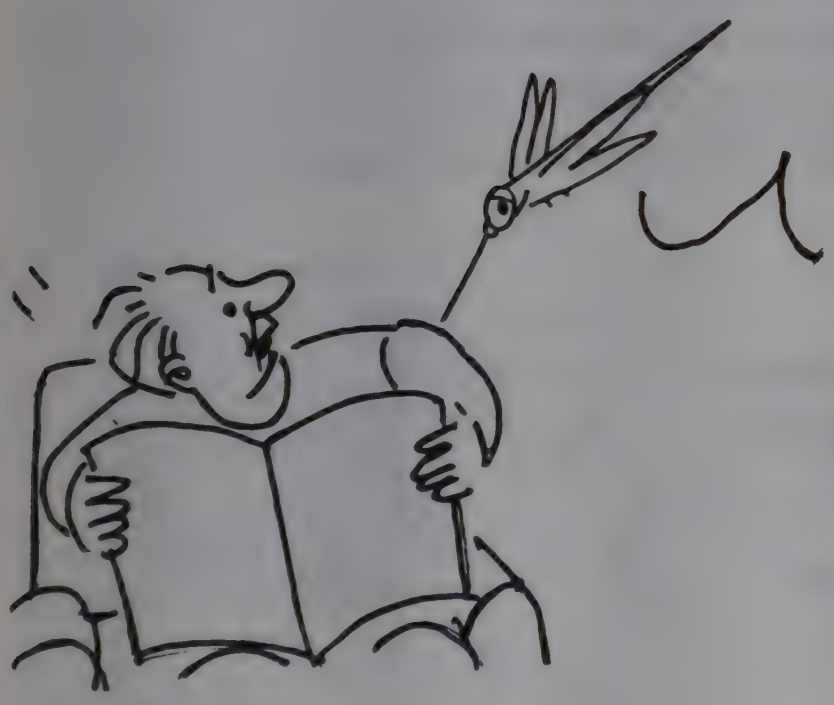
***Can one get HIV from using someone's razor or toothbrush?***



To date, no AIDS cases are linked with sharing razors or toothbrushes. However, since toothbrushes and razors can cause cuts and scrapes, it is wise to avoid sharing personal items that may have come into contact with another person's blood.

***What is the risk of living in a neighbourhood that has a hospital or home for people with HIV infection or AIDS?***

None, since HIV is not transmitted through air or through any kind of casual contact. No restriction is necessary.



***Do mosquitoes or other bloodsucking insects spread AIDS? How do we know that they do not?***

The evidence clearly shows that the virus is not spread by mosquitoes and other insects. Compare AIDS with malaria. Malaria is spread by mosquitoes. Malaria strikes everyone — children, young people, adults, old people. This is because malaria-carrying mosquitoes in a neighbourhood bite them all.

But, in the same mosquito-infested neighbourhood, AIDS does not strike everyone. Only those small children have it whose mothers gave it to them at birth or who got it from infected blood transfusions. Other children remain uninfected. Also, most old people are not infected. If mosquitoes carried the virus, everyone bitten by them would be vulnerable. But AIDS is always most common among people who are between 20 to 40 years old. That is because this age group is the most active sexually. They are at risk from AIDS because of their sexual activity, not because of mosquitoes which bite people in every age group.

Mosquitoes do not inject blood they draw blood. When they bite they inject a substance that keeps blood from clotting and then suck blood out. Whey they fly off, they do so to digest their meal, not to inject into another human being. What is more, only tiny amounts of blood are involved, with a very low likelihood of the AIDS virus being present even in blood from an infected person.

After a mosquito has drawn blood, there is another obstacle for any virus that might be inside the mosquito's body. The virus lives in cells of the human body, not in insect cells. So mosquitoes are not a suitable home for HIV. The virus is not like the malarial parasite, which thrives in the mosquito and spreads to people when the mosquitoes bite.

Bedbugs, lice and fleas in the households of AIDS patients do not spread the virus among the others living in the same household.

***What should we do if we are concerned about getting HIV infection from a visit to a doctor, dentist or other health professional?***

Getting HIV infection or other blood borne diseases from a doctor, dentist or other health professionals, though extremely unlikely, can be easily avoided. For their protection as well as the patient's, health care workers are required to use infection control measures that minimize direct exposure to patients' or workers' blood.

## ADDITIONAL ACTIVITIES

## UNIT - II

### ZEE VIRUS GAME

Prepare slips of paper, one for each participant. Mark one slip with the word 'Zee' and mark two or three with the word 'Glove' depending on the number of participants. (If there are 10 participants one 'Glove' will do). The rest of the slips are blank. Fold them.

Now tell the participants that a virus 'Zee' has been let loose in the room just then. This virus spreads by shaking hands with someone who is infected. Each of them will receive a slip. Tell them not to open the slip yet.

Once you say 'start' they have to move around and shake hands with three or five diifferent participants and note down their names. When this is finished they return to their seats.

Ask them to open their slip of paper. Identify the person with 'Zee' written on his/her paper.

Then ask all those who shook hands with _____ to stand up. They may have been infected with the 'Zee' virus. Those who have a paper with 'Glove' written on it may take their seat. People with 'Gloves' are protected from the 'Zee' virus.

Next ask everyone who shook hands with anyone still standing, to get up. Identify 'Gloves' among them and ask them to sit. The others remain standing. By now almost everybody would be standing.

**Facilitator:** Now look at how many people are standing who might be infected with 'Zee' virus. That's how quickly the virus can spread from just one infected person.

*Compare the 'Zee' virus to HIV*

- The 'Glove' can be compared to a condom which provides protection against diseases.
- Handshaking is similar to engaging in sexual intercourse or sharing IV drugs, needles and syringes - any risk behaviour that can transmit the disease.

**Remember to point out that HIV does not spread through casual day-to-day contact, such as shaking hands.**

Have a discussion on what would be responsible/safe behaviour during the 'Zee' virus disease crisis and during HIV/AIDS crisis.

# UNIT 3

# LOVE, SEX, REPRODUCTION AND HEALTH

**Topics covered**

| | |
|---|---|
| Chapter 8 | Love and Relationship |
| Chapter 9 | The Reproductive System |
| Chapter 10 | Healthy Attitude Towards Sex |

**Objectives**

1. To communicate correct knowledge about love, sex and sexuality.
2. To develop an understanding of the human reproductive system and its maturation process.
3. To learn to deal effectively with psychological and emotional issues related to sex and sexuality.
4. To develop responsible sexual behaviour.

**Suggested teaching methods**

1. Question and Answer session using a question box
2. Case studies.

**Flip chart reference**

Numbers 11 to 13

**Activities**

1. Exercise and brainstorm
   Discuss within small groups the body gestures and signs that may give rise to sexual desire. Grade them in increasing order of intensity. For example: eye contact; brushing against a person; shaking hands; kissing; hugging; being alone in a room with a person of the opposite sex; etc. Discuss precautions to be taken. Practice saying 'No'.
2. Involve the participants in bringing out 'stories' of crisis situations. Eg: A boy, after a few casual meetings, asking a girl to go out with him. What are the risks/problems involved? What do you think may be the desirable and undesirable outcomes of such crisis situations?
3. A ballot box could be made by the students who could then put into it anonymous questions written on slips of paper. The teacher could answer these and clarify doubts in class.

# Chapter 8: LOVE AND RELATIONSHIP

Every human being has a need for love, and love needs to be expressed. Sex may be considered as a human expression of creative love.

A child grows from infancy through childhood to adulthood. The transition from childhood to adulthood is called adolescence, spanning a comparatively short period in one's life. But these few years are very eventful in one's development. This period is characterized by hormonal changes, consequent inter-personal problems, awakened curiosity, intense sexual interest, confusion of objectives, etc.

A child blossoms forth through adolescence with the help of the warmth, security and love of the family. During this adolescent period, there will be a total change of attitudes. His/her personality will experience some physical and emotional changes. Love and attraction for the other sex and the sexual urge generally commence at this stage.

Love brings people together. The world cannot exist without love.

***Loving someone means:***

Caring for that person and being cared for;
Wanting to be intimate and close to that person;
Wanting to communicate with that person, share all thoughts, secrets, fun, sorrows and future plans;
Just enjoying being together.

***Love can be between:***

Father and child; mother and child; siblings; friends; a man and a woman.

Love can also be expressed through a hug, a kiss, an arm around the shoulder, a smile or just a meaningful eye contact.

A relationship develops through a sense of belonging, deep love, understanding and union.

This relationship between a man and a woman is qualified by a life-long commitment, sanctified by marriage. Fidelity, good understanding, give-and-take are all characteristics of such a healthy relationship.

The two together take the journey, agreeing to offer as a total self-gift to the partner himself/herself, both body and soul. This also has a private form of love which is intimate, leading to physical closeness with each other. This act of love is called 'intercourse'. They embrace each other and in this loving embrace, the man inserts his penis into the woman's vagina and gives her something of his own: his seed of life. The woman lovingly receives

this seed. The fruit of their love can be a little baby born to them nine months later. Thus this relationship can be transformed into another living human being, complimenting and fulfilling their love. Today each couple is advised to have just one child to plan their family well.

The tremendous power of sexual energy is to be well channelized. A boy/girl who has a healthy attitude towards his/her sexuality will grow up to be a happy, responsible and loving father/mother, and a healthy individual.

# Chapter 9: THE REPRODUCTIVE SYSTEM

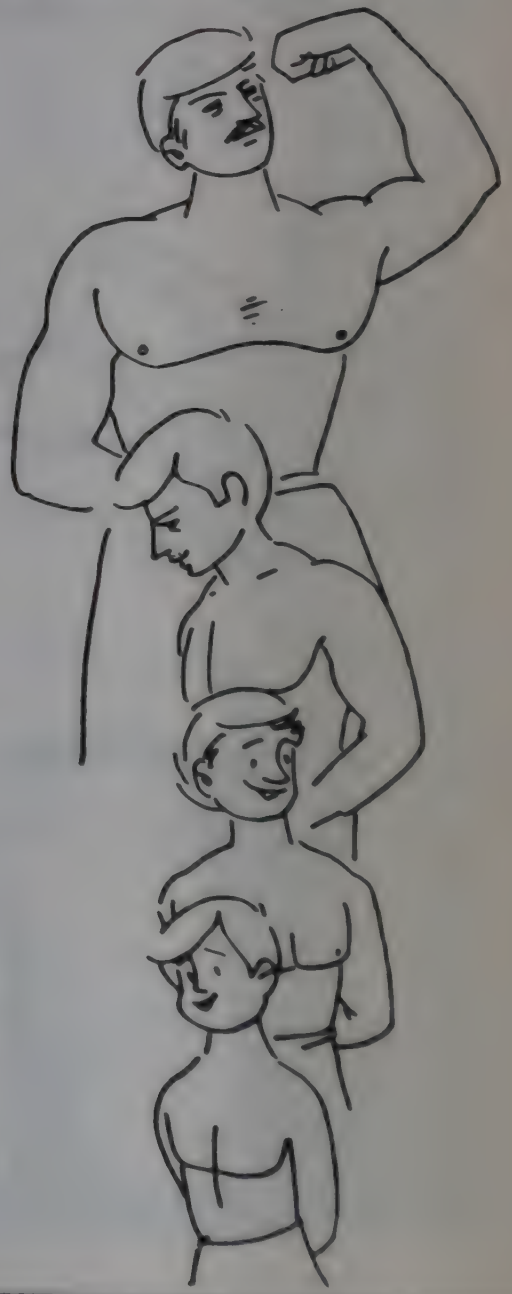
The numerous differences between the male and the female sex depend primarily on a single chromosome (the Y chromosome) and a single pair of hormone secreting structures — the testes in the male and the ovaries in the female.

After birth the testes and ovaries, also known as gonads, remain inactive until adolescence when they are activated by the gonadotrophin hormone from the anterior pituitary. Hormones secreted by the testes and ovaries at this time cause the appearance of features typical of the adult male or female and the onset of the sexual cycle in the female. In males, the testes remain more or less active from puberty onward. In the human female, the ovarian function regresses after a period of time and the sexual cycle ceases (the menopause).

In both sexes the gonads have a double role: production of sperm in the male and ova in the female, as well as secretion of sex hormones. The androgens are the hormones which have a masculinizing effect and the estrogens are feminizing. Both types of hormones are normally secreted in both sexes in varying amounts. The testes secrete large amounts of androgens, mainly testosterone, and the ovaries secrete large amounts of estrogens.

## 9.1 PUBERTY

At the time of puberty, hormones secreted by the pituitary gland activate the gonads and bring about final maturation of the reproductive system. This period of maturation is also known as adolescence. During this phase, the secondary sex characteristics develop. The pituitary gland sends a hormonal message to the respective sex glands.



***Body changes at puberty in boys***
(Male secondary sex characteristics)

*External genitalia:* Penis increases in length and girth, scrotum becomes pigmented.

*Internal genitalia:* Seminal vesicles enlarge and secrete.

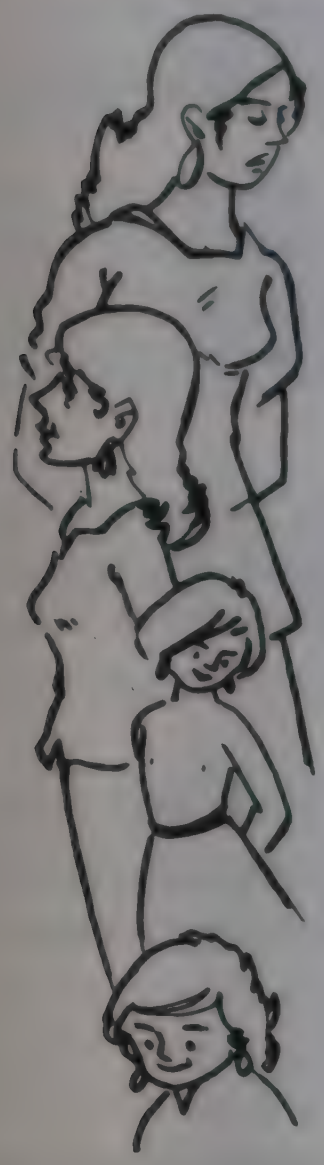
*Voice:* Larynx enlarges, vocal cords increase in length and thickness and voice becomes deeper.

*Hair growth:* Beard appears. Pubic hair grows, general body hair increases and hair appears in axilla and on chest.

*Mental:* More aggressive, active attitude. Interest in opposite sex develops.

*Body:* Shoulders broaden, muscles enlarge.

*Skin:* Sebaceous gland secretion thickens and increases.



***Body changes at puberty in girls***
(Female secondary sex characteristics)

*Internal genitalia:* Enlargement of uterus and vagina.

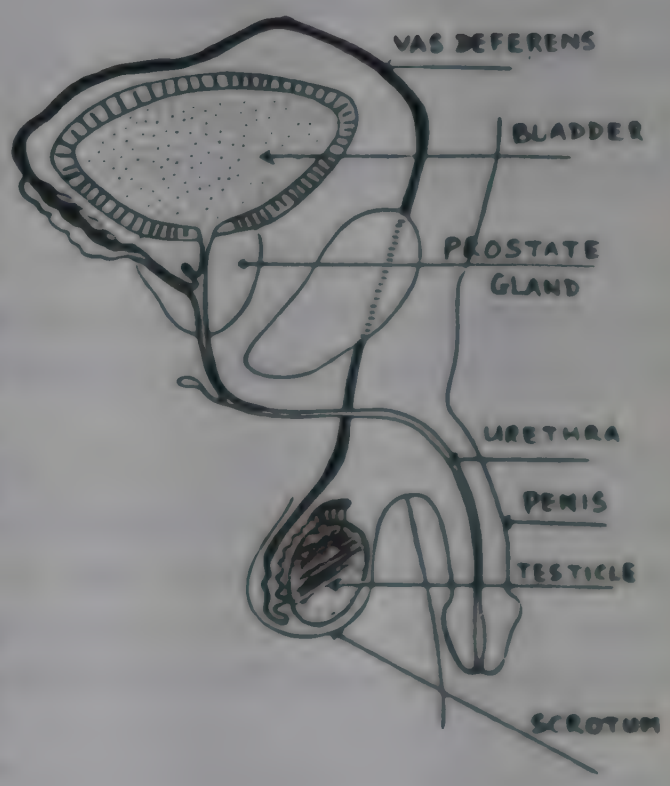
*Body:* Enlargement of breasts, narrowing of shoulders and broadening of hips.

*Voice:* The larynx retains its prepubertal proportions and the voice stays high pitched.

*Hair growth:* Less body hair, more scalp hair, pubic hair develops and hair grows in the axilla.

## 9.2 THE MALE REPRODUCTIVE SYSTEM

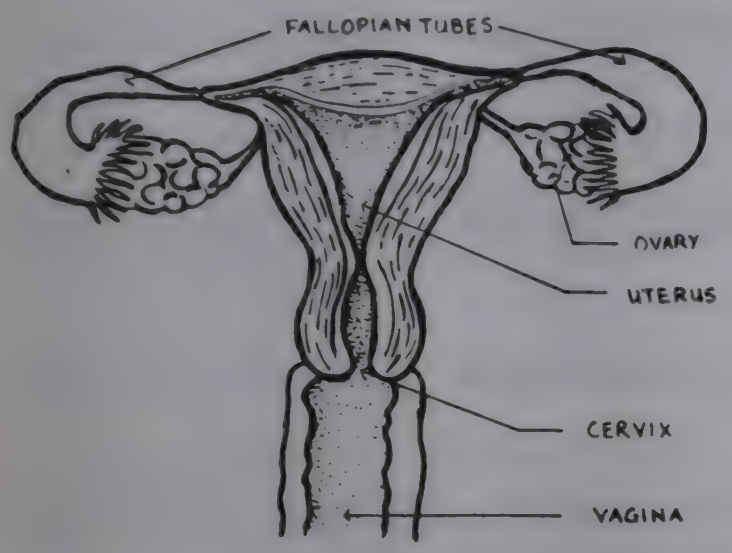
The testes are made up of many loops along the walls of which the sperms are formed. The two ends drain into the ducts in the head of the epididymis. From these, the sperms pass through the tail of the epididymis and into the Vas deferens. They enter through the ejaculatory ducts into the urethra at the time of ejaculation. The penis has two parts. They are the glans and the part surrounding the urethra. The glans is the slightly enlarged part of the penis and is covered with skin at birth.




The fluid that is ejaculated at the time of orgasm, the semen, contains sperms and secretions of the seminal vesicles, prostate, cowper's glands and probably the

urethral glands. There are normally about 100 million sperm/ml of semen.

Nocturnal emissions are an expression of the development of the testicles and other male organs of reproduction. This occurrence is normal and should be no cause for worry. It may occur as early as the 9th or 10th year or as late as the 16th or 17th year.




## 9.3 THE FEMALE REPRODUCTIVE SYSTEM

The reproductive system of the female shows regular cyclic changes. This is the menstrual cycle and its most conspicuous feature is the periodic vaginal bleeding that occurs with the shedding of the uterine lining.

The female reproductive system consists of a pair of ovaries, a pair of fallopian tubes, the uterus, the vagina and external reproductive organs. Ovaries produce the eggs or ova.

Sexual development begins early in adolescence when pituitary hormones stimulate the two types of cells within ovaries and secrete hormones. Secondary female characteristics appear during this time and menstruation starts. These hormones are also responsible for the growth spurt.

## 9.4 THE MENSTRUAL CYCLE

The length of the cycle varies in women but on average it is 28 days from the start of one menstrual period to the start of the next. About the 14th day of the cycle, a mature ovum is released by the ovary. This is known as ovulation. The ovum is picked up by the fimbriated ends of the fallopian tube from where it is transported to the uterus and, unless fertilization occurs, out through the vagina. If the ovum joins with a sperm, conception takes place.

One egg/ovum is released alternatively from each of the two ovaries. During a woman's child-bearing years (in the course of a normal reproductive life) about 500 ova are stimulated to mature. But most of these ova are not fertilized.

After the release of the ovum, certain hormones are secreted which stimulate the uterus, causing the uterus wall to become thick and increase its blood supply. If conception takes place the matured ovum gets embedded in the uterus. When conception does not take place, the egg or ovum, along with the thickened lining of the uterus and blood, is shed through the vagina. This is menstruation.

Normally, discharge occurs for three to five days. Some girls experience severe pain before or during menstruation. In such cases, certain special exercises may help.

## 9.5 CONCEPTION

When a sperm enters the female reproductive tract, it swims upward through the vagina and uterus towards the fallopian tubes.

Every month, a woman's ovaries release one egg into the fallopian tubes. The one or two days, before the egg is degraded, is her fertile period and conception can take place only at this time.

Millions of sperm cells are released during ejaculation; however, only a single sperm may fertilize the egg. Several hundred of them may reach the fallopian tube; they then burrow through the thick protective layers that surround the egg and the first sperm cell to pass through these layers fertilizes the egg.

The fertilized egg travels down the fallopian tube and implants itself in the uterus wall. Hormonal changes occur in the body and these can be detected in the urine through a pregnancy test. Such a test will show a positive result four to six weeks after conception.

## 9.6 CONTRACEPTION

There are several methods of prevention of fertilization or implantation of the egg.

1. *Abstinence* (complete avoidance of sex).
2. *Rhythm method* (avoiding sex during a woman's fertile period).
3. *Withdrawal* (ejaculation outside the vagina).
4. *Condom* (prevention of sperm entering the vagina; this barrier method also prevents transmission of STDs and HIV).
5. *Birth control pills* (regulating a woman's hormonal cycle to prevent release of egg).
6. *Diaphragm or cervical cap* (preventing sperm from entering the uterus).
7. *IUD* (Intra-uterine device or coil, to discourage the fertilized egg being implanted in the uterine wall).
8. *Depot injection* (a long acting hormone injection, resorted to only if other methods cannot be used).

All methods of contraception are the shared responsibility and decision of both partners. It is preferable to postpone pregnancy until a couple feels physically, emotionally and financially capable of caring for a baby.

All contraceptive methods are user-dependant. If a method is not strictly adhered to, pregnancy may occur.

Only (i) abstinence, (ii) sex with a faithful, uninfected partner and (iii) condom-use, provide protection against transmission of HIV or other infections. To be effective, condoms should be of good quality and lubricated; they should be used properly and regularly.

# Chapter 10: HEALTHY ATTITUDE TOWARDS SEX

Sex should be linked with love, affection, tenderness, care and consideration for the feelings of others and respect for one another. This is the normal outcome of a warm, affectionate and healthy upbringing. The more sex is associated with fear, guilt and aggression, the less integrated it will be with respect and affection. A concern with sex education must stem from recognition that human socio-sexual development is a learning process. A person's sexual expression depends on socialization and he/she should be encouraged to develop behaviour which is responsible and accountable.

Education aims at initiating people into worthwhile activities concerned with learning and understanding. Sex education therefore cannot only give the biological facts; nor can it impose a particular attitude towards sexual morality. Sex education must aim at imparting knowledge and healthy understanding of sexual behaviour, complemented by love and mutual concern. The influence of peer pressure as a strong motivating factor is a key issue that should be discussed freely with the students.

Sex education is therefore complete only when the youth are capable of making informed decisions. The more informed a person is, the better he/she is able to choose the responsible course of behaviour. The more aware one is of the options, the more freedom one has to conduct oneself. Freedom and responsibility are two sides of the same coin.

Sex education should enable people to be aware of a full range of possible sexual behaviours and values so that they can meaningfully choose their own behaviour. Teaching about the reproductive system alone is not sufficient.

***The components of sex education should be as follows:***

1. Foster the attitude that the sexual relationship is like any other relationship where the feelings and needs of both partners are equally important.

2. Foster each person's ability to introspect his/her own sexual feelings and needs. Without such insight they might not know how to avoid hurting themselves, or others. Lack of such insight may impair development of close relationships.

3. Develop their ability to be alert and sensitive to difficult situations where they ought to think before they act.

4. Help students to have confidence in their own judgement and values. On the whole, teachers should have a positive approach to sex education.

5. Subjects such as high risk sexual behaviour, family planning, unplanned children, STDs, etc., should be discussed in the context of AIDS control.

## 10.1 SEXUAL PRACTICES AND RISKS INVOLVED

Sexual practices referred to in this manual include vaginal sex, anal sex and oral sex. These practices, each carrying an inherent risk of HIV transmission, are explained here.

***Penile-vaginal sex***

Commonly regarded as "normal" sex, this involves genital contact between male and female organs. It is the only form of sexual contact that may lead to pregnancy.

During a state of physical and emotional arousal, a man experiences a redistribution of blood flow in the genital area, causing engorgement of the veins in his penis which becomes erect. In the woman, arousal causes increase in pelvic blood flow and slight swelling of the vulva and clitoris. The vaginal walls produce small amounts of waxy secretions for vaginal lubrication.

The sexual act involves insertion and thrusting of the erect penis inside the vagina. At the moment of maximum arousal, the man ejaculates, causing release of sperm and fluid into the vagina. Female orgasm involves rhythmic contraction of vaginal wall muscles, propelling the sperm further into the female reproductive tract. If a single sperm reaches the fallopian tubes, fertilization may take place.

Penile-vaginal sexual contact carries a risk of transmission of STD infections such as gonorrhea, chlamydia, syphilis or herpes. This can occur even if the infected individual has no symptoms.

This is also a method of transmission of HIV. Any abrasion of penis or vagina will give the virus a route of entry into the bloodstream. The risk of transmission is increased by open sores in the genital area. The chances of breaking the mucosal barrier are great in rough sex which can lead to abrasions; and for the woman during the first sexual contact, breakage of the hymen can cause some bleeding.

***Penile-anal sex***

Anal sex may be practiced by heterosexual couples as well as male homosexual couples. The erect penis is inserted into the anus where ejaculation takes place. There is no increase in anal secretions during the arousal phase. Some kind of lubricant is generally used as the anal mucosa does not produce sufficient lubricant.

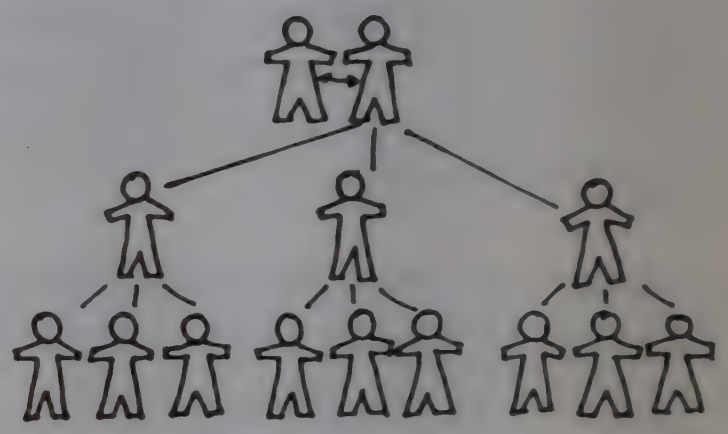
Conception cannot occur during anal sex, but the risk of HIV transmission is greater as the likelihood of the penis causing abrasion in the anal lining is high.

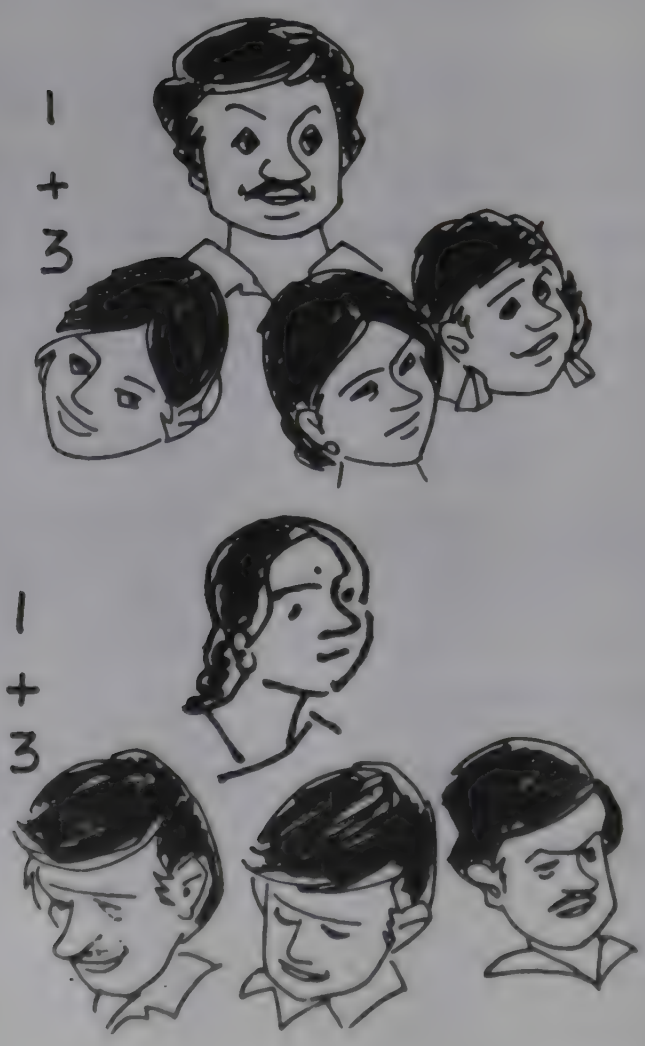
***Oral sex***

This may be practiced by both heterosexual and homosexual couples. It involves one partner licking or sucking on the external genitalia of the other. Oral-penile contact is termed fellatio and oral-vulva contact is termed cunnilingus. Both involve an arousal phase and may lead to orgasm. Neither can result in pregnancy. Oral sex carries some risk of HIV transmission. If there are any cuts or sores on the mouth or lips, these may come into contact with seminal or vaginal secretions and provide a route of entry for the HIV virus.

## 10.2 BEHAVIOURAL FACTORS THAT PUT ONE AT RISK OF EXPOSURE TO AIDS

1. *Ignorance:* Ignorance about the partner's lifestyle or ignorance about AIDS can put one at high risk of getting the HIV infection. Suppose person B is sexually faithful to person A but is not aware of the lifestyle of A. Assume that A has sexual contact with three other persons, and each of those three has sexual contact with three more persons. Even if one amongst the 13 persons is infected with HIV, B is at high risk of getting the infection even though he/she is not directly adopting high risk behaviour. Information and awareness, not ignorance, can solve such problems.






2. *Lack of self control:* Multi-partner sex often gets established as regular sexual behaviour due to lack of self control and absence of skills to make healthy decisions.

   Experimentation is the primary reason given by the majority of those indulging in casual sex. If the ability to make right decisions when faced with peer pressure does not exist, multi-partner sex becomes the pattern and places a person at very high risk of STDs and exposure to AIDS virus.

## 10.3 OTHER STDS AND AIDS

STDs are a group of diseases which spread from an infected person to another during sexual contact. Infected blood transfusion can also cause STDs. Some types of STDs can be passed from mother to child before birth or at the time of delivery.

STDs can cause sterility. Besides, the unborn child of a woman with STD can suffer from congenital abnormalities. STDs can sometimes cause heart disease, brain damage, and even death.

The organisms responsible for STDs are found *everywhere* and are of various types. VDs or STDs are not confined to any particular group of population but can affect anyone. One can harbour such a disease internally, without any sign or symptom.

There are more than 20 categories of diseases which belong to the spectrum of STDs, including commonly known ones like syphilis, gonorrhoea, chancroid, condyloma or genital warts, herpes, candidiasis, etc.

All these are curable provided they are diagnosed early. If medical treatment is delayed or incomplete, the disease spreads to other parts of the body, making total recovery difficult.

AIDS is the only STD which is incurable and fatal. But AIDS can be easily avoided.

***What should a person who has an STD do?***

He/she should not be afraid or ashamed but should seek medical attention immediately.

1. He/she should follow the health worker's and doctor's instructions carefully.

2. He/she should inform his/her sexual partner (or partners) and tell them to get treatment. It is necessary that the partner is also checked by a doctor and treated; otherwise the patient may get infected again.

3. He/she should not try self treatment or treatment by an unqualified person. This could be ineffective or even dangerous.

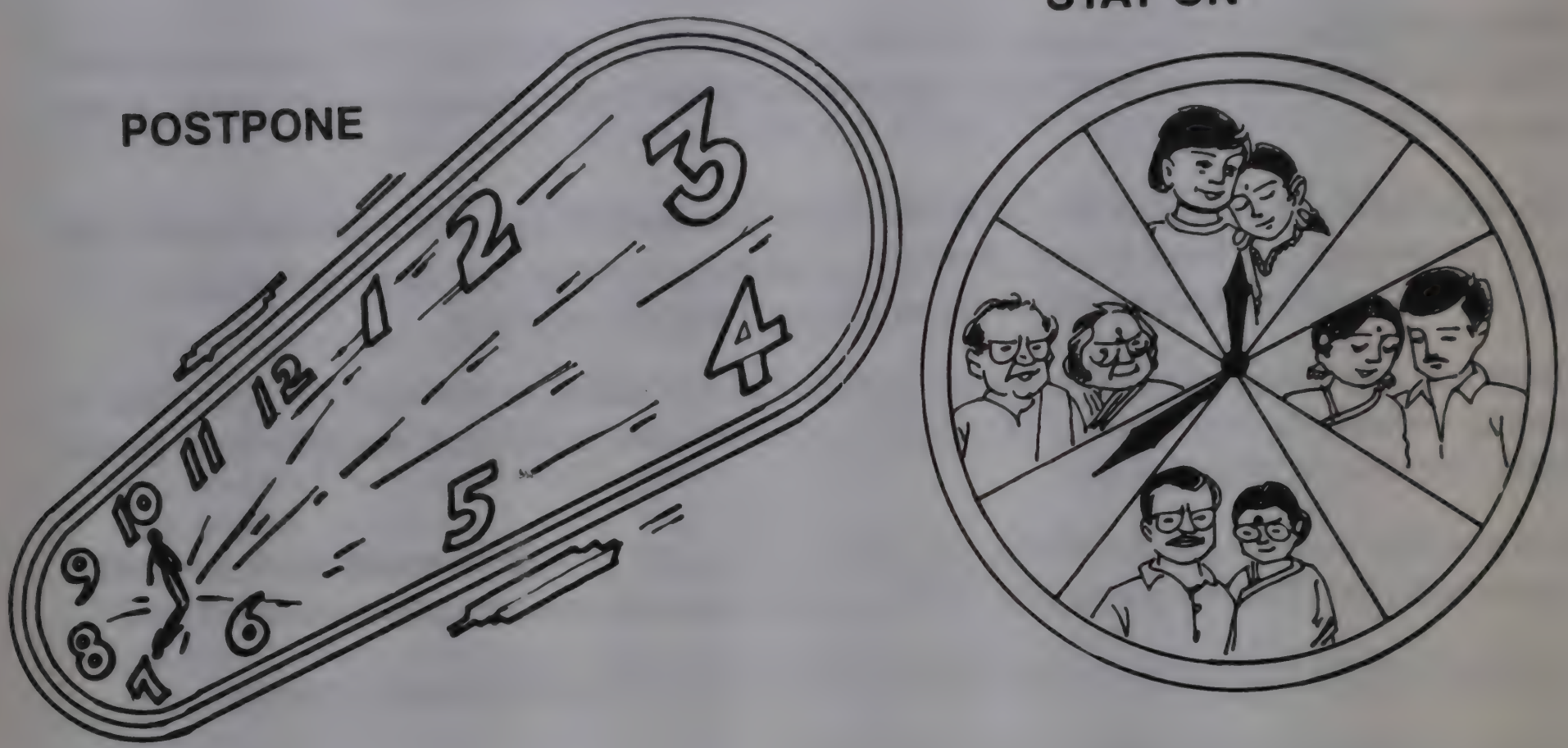
4. Both partners must take the treatment and not indulge in sexual intercourse until the STD is treated and cured.

## 10.4 HOW TO AVOID CASUAL SEX

1. Be informed about sex, the responsibilities that go with sex, and STDs.

2. Develop empowerment to say 'no' to casual sex. Wait for the right time and the right person. Each partner is accountable for his/her sexual behaviour. One should

postpone sex until one is sure about the partner's lifestyle. One should then establish a stable relationship with that partner. This is what a happy, faithful marriage leads to.




***How can a person say 'no' to sex?***

When talking about sex and HIV infection, one should discuss ways to say 'no' to sex. Some suggestions for possible answers are given below:

"I am just not ready for it yet."
"I care about you but I don't want the responsibility that comes with sex."
"I think sex outside marriage is wrong."
"I feel good about not having sex until I am married. I've made my decision and shall stay with it."

***What are the alternatives?***

Just preaching to young people about what they should not do, can create a negative image of a parent or teacher. It will be helpful to discuss some risk-free alternatives. Young people will be better able to choose safe behaviour if they know ways to express their romantic feelings without indulging in sex and thereby avoid HIV infection.

***What are the benefits of delaying sexual intercourse?***

The longer sexual intercourse is postponed, the greater the safety from sexually transmitted diseases and HIV infection.

Delaying sexual intercourse gives a person time to be sure that he or she is physically and emotionally ready to engage in a sexual relationship.

Delaying sexual intercourse helps prevent unwanted pregnancy.

Most religious, cultural and social traditions and family values favour postponing intercourse until marriage.

## ADDITIONAL ACTIVITIES

## UNIT - III

### DISCUSSION

In this unit the facilitator attempts to initiate a healthy discussion on sex and sexuality. Ask the average age of the group.

What are the changes that occur during adolescence?

Discuss the physical and emotional changes during adolescence.

Focus on the **PHYSICAL CHANGES:**

a. primary and secondary sexual characteristics.

b. male and female reproductive system

c. mensuration

d. conception

e. contraception

A discussion is to be facilitated keeping in mind the following points:

**Physical change is only one aspect of change in the growth towards adulthood. Emotional change is just as important as physical change for a well integrated personality.**

Focus on **EMOTIONAL CHANGES:**

a. Increasing attraction towards the opposite sex.

b. Desire to have close friendship with members of the opposite sex.

### DISCUSSION

Discuss the components of a healthy relationship between individuals of opposite sex.

SMALL GROUP ACTIVITY

Divide the participants into small groups. Give each small group one specific situation with an open ending. eg., A boy and a girl want to marry each other, but after a few years. The boy asks the girl to have sex with him. What can she do in such a situation?

Each group leader is to present the group's views. Participants from the other groups may also present their views.

Having learnt their views you can then discuss with them the following:-

**MAKING RESPONSIBLE CHOICES ABOUT SEX**

What do you mean by Responsible choices?

These are choices that you make after carefully considering all the facts and possible results of your actions. In making responsible decisions about sex, you must think about:-

* whether or not you are ready for intimate physical relationship.
* your reasons for wanting to have sex or the reasons for waiting.
* what might happen (the consequences) both good and bad - as a result of the choice that you make.
* How can you make a responsible choice?

**YOUR VALUES**

Your values are the things that are important to you. Be sure you know how you feel about:

* the kind of future you would like for yourself
* what your parents have taught you
* your religious background
* what you have learnt in school
* your health

These will help you make an informed decision enabling you to take care of yourself.

**YOUR EXPECTATIONS**

Self esteem is how you feel about yourself. If you resist pressure to have sex, you have made a responsible choice - and that can make you feel good about yourself.

Remember sharing affection does not necessarily mean 'having sex'. AND having sex does not necessarily 'prove' your love for someone.

A general discussion is to be facilitated on the following points:

Sex must take place between two individuals who respect each other and are committed to each other mentally and emotionally.

These two individuals must be emotionally and physically mature before attempting any physical intimacy.

Physical intimacy carries with it a tremendous responsibility which the individuals concerned must be ready to handle.

**SO MAKING CHOICES ABOUT SEX IS UP TO YOU**

**BUT BEFORE YOU DECIDE TO HAVE SEX BE SURE TO -**

- Consider your values
- Understand your motives
- Know the facts
- Recognise all the possible consequences
- Learn to show your love in other ways

BRAINSTORMING ACTIVITY

Brainstorm on the ways to handle peer pressure and to say 'No'

# UNIT 4 BLOOD AND BLOOD SAFETY

**Topics covered**

| | |
|---|---|
| Chapter 11 | Blood |
| Chapter 12 | Blood Safety and AIDS |

**Objectives**

1. To understand the biology of blood.
2. To understand the importance of ensuring safe blood supply (in the context of HIV/AIDS), and the individual's role in it.

**Suggested teaching methods**

1. Small group discussions.
2. Role play.

**Flip chart reference**

Number 14

**Activities**

1. Case study
   Reena is studying in the 12th standard. Her mother is to have major surgery and may need blood transfusion. Reena is aware that her mother may be at risk of getting infected with HIV if the blood is not tested. What steps can Reena take to ensure that her mother is safe?
   Role play this situation for five minutes, with a conversation between Reena and the concerned authorities.

2. A school student meets with an accident and needs blood. A group of young people are asked to donate but they are afraid that if they give blood they will get AIDS. Is their fear justified? Is there any truth in it or is this fear based on myths and misconceptions? What would you do if you were asked to donate blood, and why?

# Chapter 11: BLOOD

## 11.1 FUNCTION AND CONSTITUTION OF BLOOD

Blood is the fluid medium for the carriage of oxygen, nutrient materials and hormones. It also carries infective agents like the AIDS virus, HIV, to the tissues. It removes carbon dioxide and other waste products from the tissues. It is a most efficient transport system.

Blood consists of three formed elements: the red blood cells, the white blood cells and platelets; and, in a fluid medium, the plasma. These cells are continually being destroyed, either because of old age or as a result of their functional activities, and replaced by newly-formed cells.

Blood is composed of 55% water and 45% cellular components. Approximately 8% of body weight is blood. The volume changes slightly in the same person from time to time.

### *Red Blood Cells (Erythrocytes)*

The RBCs are given their colour by a pigment called haemoglobin. This is a complex protein, containing iron which is found in no other cell. The RBCs carry oxygen from the air in the lungs to all the cells of the body. These are the most widely used blood component. Most patients requiring transfusions are in need of the oxygen carrying capacity of the red cells.

### *White Blood Cells (Leucocytes)*

WBCs are the defence forces against infection and injury. Some white cells fight bacteria by surrounding and then destroying them; others build up the body's immunity to disease by producing antibodies.

### *Platelets (Thrombocytes)*

These cells aid in the clotting of blood, thereby saving blood loss. Platelet concentrates are used to control bleeding caused by platelet deficiencies. These deficiencies may be due to disease or may follow severe haemorrhage.

### *Plasma*

This contains water, minerals and other substances absorbed from food for supply to all the cells of the body. It contains hormones and transports waste products to the kidneys for excretion. Plasma also contains many proteins including blood clotting factors and immunoglobulins.

### *Antigens and antibodies*

Complex protein molecules called antigens are found on the surface of each cell. When foreign cells are introduced, the body recognizes that they are different because of the special characteristics of their antigens. The body then produces proteins called antibodies which neutralize these foreign antigens. These antibodies are made by the white cells and circulate in the plasma.

## 11.2 BLOOD-RELATED DISEASES

### *Anaemia*

This is due to lack of red cells and haemoglobin and is the most common blood disorder. Iron deficiency is the most common cause of anaemia. It may be due to inadequate intake of iron-containing foods, poor absorption of iron from food, heavy periods or bleeding piles. Apart from those undergoing surgery, most patients needing blood transfusion are those suffering anaemia following sudden blood loss due to trauma or bleeding ulcers.

Anaemia can be avoided through a well-balanced diet which provides the necessary raw materials for formation of blood cells.

### *Haemophilia*

Haemophilia is a hereditary deficiency of factor VII which is a plasma protein necessary for normal blood clotting. A person with haemophilia may suffer severe internal bleeding after trivial injuries. Other clotting disorders exist, but are rare. Earlier, many patients with haemophilia died at a very young age, due to bleeding. With modern therapy, transfusing healthy blood, such patients may now live a full and relatively normal life.

### *Thalassaemia*

This is caused by failure of the body to produce normal haemoglobin. In India, it is reported to be present in varying degrees among different ethnic communities. In the overall population, the presence of this abnormal gene is about 3%.

## 11.3 BLOOD TRANSFUSION AND ITS NEEDS

Blood transfusion is transfer of a unit of blood, or its component, from one person (the donor) to another (the recipient). The first successful transfusion of human blood was achieved in 1881 by an English obstetrician, Dr James Blundell, to compensate for loss of blood in a patient, following child birth.

Blood transfusions are used to treat many types of anaemia and to replace blood loss in accidents, during surgery, and after chemotherapy or radiation. Blood is also used in treatment of shock. A patient in shock is characteristically cold, clammy, pale; sudden severe blood loss is the main cause of shock. During surgery, blood loss is immediately



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compensated. Availability of blood makes major surgeries possible and planned surgery can keep pace with blood loss. Blood products are also used to treat haemophilia and thalassaemia.

A healthy blood donor can give up to 10% of his/her circulating blood volume with no ill effects whatsoever. However, losses of 20% or more of the blood volume require replacement.

## 11.4 PRESERVATION AND STORAGE OF BLOOD

There are three essential requirements when collecting and storing blood for transfusion purposes: (i) it must not clot; (ii) it must be free from contamination by bacteria and other organisms; and (iii) the cells must be kept alive to continue their normal function in the recipient.

New blood preservatives have extended the shelf life of whole blood so that it can now be stored for five weeks. Plasma can be frozen and stored for twelve months.

When the expiry date of stored blood approaches, the plasma is separated and frozen for storage. Generally, blood for transfusion is not itself frozen as it is then of little value in an emergency.

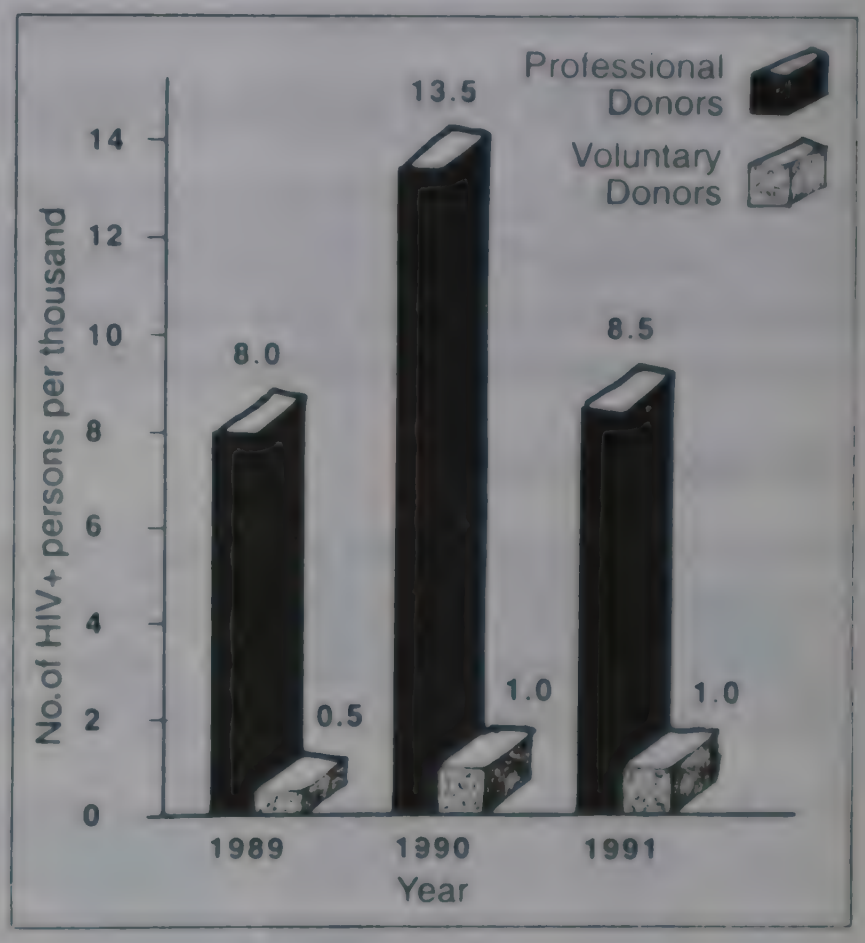
Blood found unsuitable for transfusion is discarded.

# Chapter 12: BLOOD SAFETY AND AIDS

## 12.1 BLOOD SAFETY

There are 1018 blood banks in India, handling an estimated two million units of blood per annum. This works out to 33 units per hospital bed, which is much lower than the WHO norm of seven units per annum per bed. 608 blood banks are government undertakings and 203 are run by private profit making institutions which obtain their blood mostly from professional donors. The rest are run by voluntary organizations such as the Red Cross. With the rapid expansion of health services to the periphery and specialties such as cardiac and neuro surgery being established in big cities, the demand for blood and components is expected to rise rapidly.

Since standards of blood collection and HIV testing facilities have not yet been fully established, there is a possibility of a high rate of transmission of AIDS through blood and blood products. The risk of being infected with HIV through a single HIV-infected blood transfusion is over 90%. If blood were always donated for purely humanitarian reasons and in adequate amounts, maintaining safety and quality control would be far simpler. But, unfortunately, blood is bought and sold like any other commodity. The need for all countries to establish a reliable pool of regular, voluntary and safe blood donors has never been more urgent. This need is reinforced with the awareness that the rate of HIV infection among professional blood donors (who sell blood) is consistently much higher than among voluntary blood donors, as seen in the graph.




In order to improve patient care, there is an urgent need to develop and strengthen facilities for the preparation of blood components. There is also a need to promote the rational use of blood and components through training of clinicians, particularly surgeons, so that they use components in preference to whole blood in appropriate conditions. The Central Council of Health, composed of all the Health Ministers, recommends that urgent steps should be taken by the State Governments to:

1. build adequate blood banking services at state and district level, including provision of trained/qualified manpower;

2. educate and motivate people about blood donation on a voluntary basis;
3. provide adequate encouragement to voluntary donors;
4. enforce quality control of blood in all its facets of collection, storage and distribution. This is being implemented now. From the beginning of 1988, it has become mandatory to test, before transfusion, all units of blood for HIV (AIDS virus), jaundice, syphilis and malaria.

It is paradoxical that since the start of the AIDS pandemic, voluntary blood donations have actually dropped. Many donors mistakenly believe that one may get HIV from giving blood. On the contrary, if every single healthy individual donates blood voluntarily once a year, we can make up for the deficit by supplying healthy blood and, thereby, not use infected blood.

Global blood safety in the era of AIDS has moved beyond the limited technical solution of screening, though this is important. The quality of blood is higher in voluntary blood banks than in any commercial blood bank. Sustained lobbying and cooperative efforts in every country are needed to take blood out of the market place.

## 12.2 THE NEED FOR BLOOD DONATION

Many unlucky accident victims lose their lives for lack of blood. Until such time as a synthetic substitute for blood is discovered, human blood, which is highly perishable, is a commodity much in demand. This vital fluid has a very limited shelf life even in ideal conditions of preservation and cannot be stockpiled.

### *Shortage of blood*

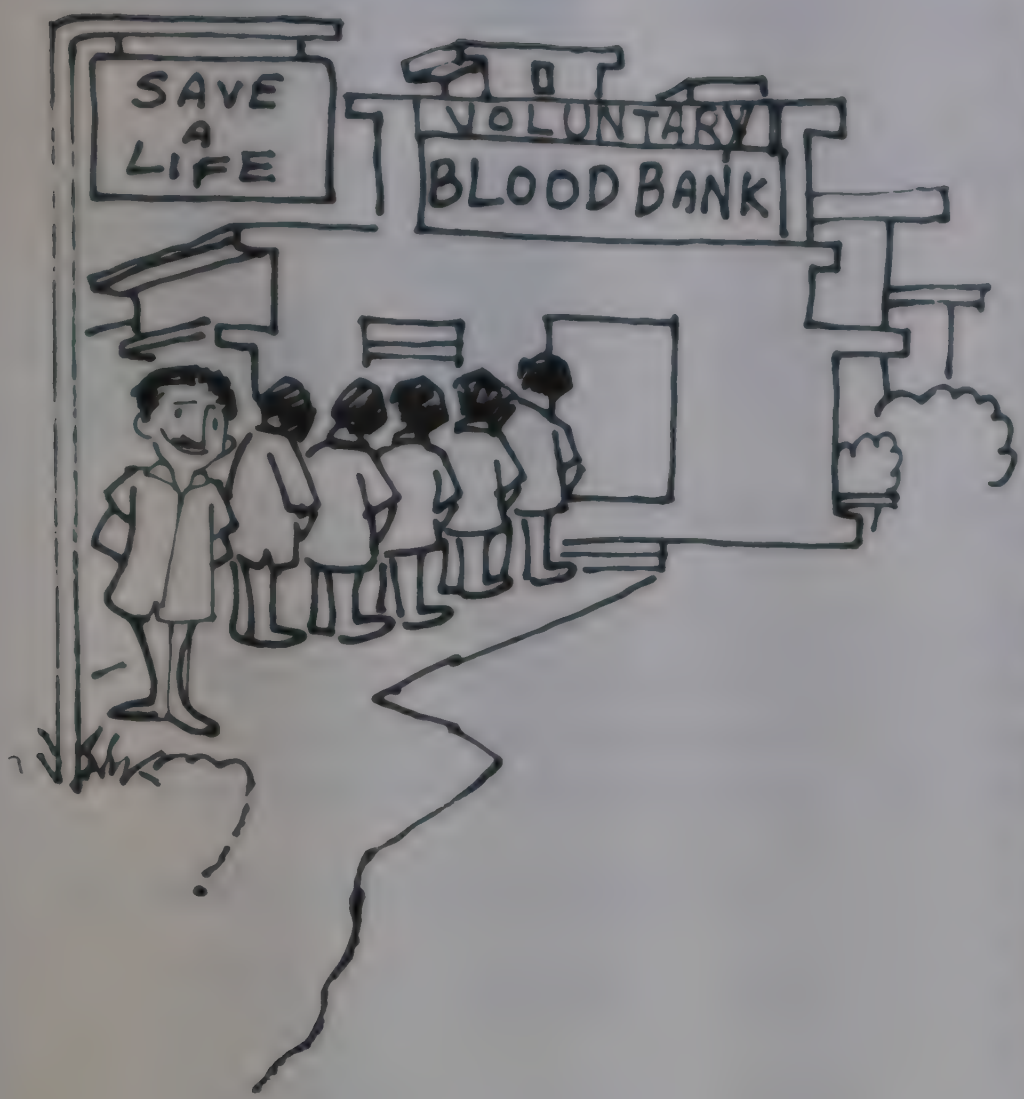
Today, our country faces a shortage of blood which adversely affects medical treatment in both government and private hospitals and nursing homes. While the country's annual requirement is of the order of five million units, its collection, through both official and non--official blood banks, is just around 1.5 million units.

This acute shortage makes provision of timely treatment difficult in emergencies and critical cases; it leads to prolonged convalescence and consequent over stay of patients in hospital, not to speak of the agony patients undergo while relatives go about hunting for blood.

### *Commercial blood donors and private blood banks*

A matter for serious concern is the mushrooming growth of private blood banks. Most of them charge anywhere between Rs.200 and Rs.500 per unit after paying just Rs.30 to Rs.50 to the blood seller.

The gap between demand and supply increases, not only because of the increase in the number of accidents, but also because of the need to give regular transfusions to patients suffering from diseases like thalassaemia and cancer.




## 12.3 MOTIVATION

The solution to the problem of blood shortage lies in motivating people to donate blood voluntarily, on humanitarian grounds. A lot of sentiment is involved in blood donation and people behave differently in different situations. There is a basic reluctance to donate blood, born out of the misapprehension that it is harmful and will make the donor weak due to loss of blood.

Motivation for blood donation can be achieved, but a change in outlook is required for it. Nothing could be more rewarding than to see someone who had been given up for lost, reviving after receiving one's blood. The immediate need is to create awareness among people, to remove fears and misconceptions by propagating the facts about blood donation.

It is important to remember and to remind others that:

1. One *cannot* get HIV infection by donating blood.

2. One should always check whether blood transfusion is really necessary, especially when the case is not an emergency.

3. If transfusion is necessary, one should insist on tested, HIV-free blood.

# UNIT 5

# SOCIAL ISSUES AND AIDS

**Topics covered**

| | |
|---|---|
| Chapter 13 | Isolation and Discrimination |
| Chapter 14 | Care and Family Support |
| Chapter 15 | Socio-Economic Impact |

1. To evaluate existing belief systems and instil healthy attitudes towards patients with AIDS (PWAs).
2. To understand the problems faced by PWAs in society.
3. To develop a non-discriminatory attitude towards PWAs.
4. To understand that isolation is not a good way to control AIDS.
5. To emphasize the crucial role of a PWA's family.

**Suggested teaching methods**

1. Small group discussion
2. Story telling
3. Case studies

**Flip chart reference**

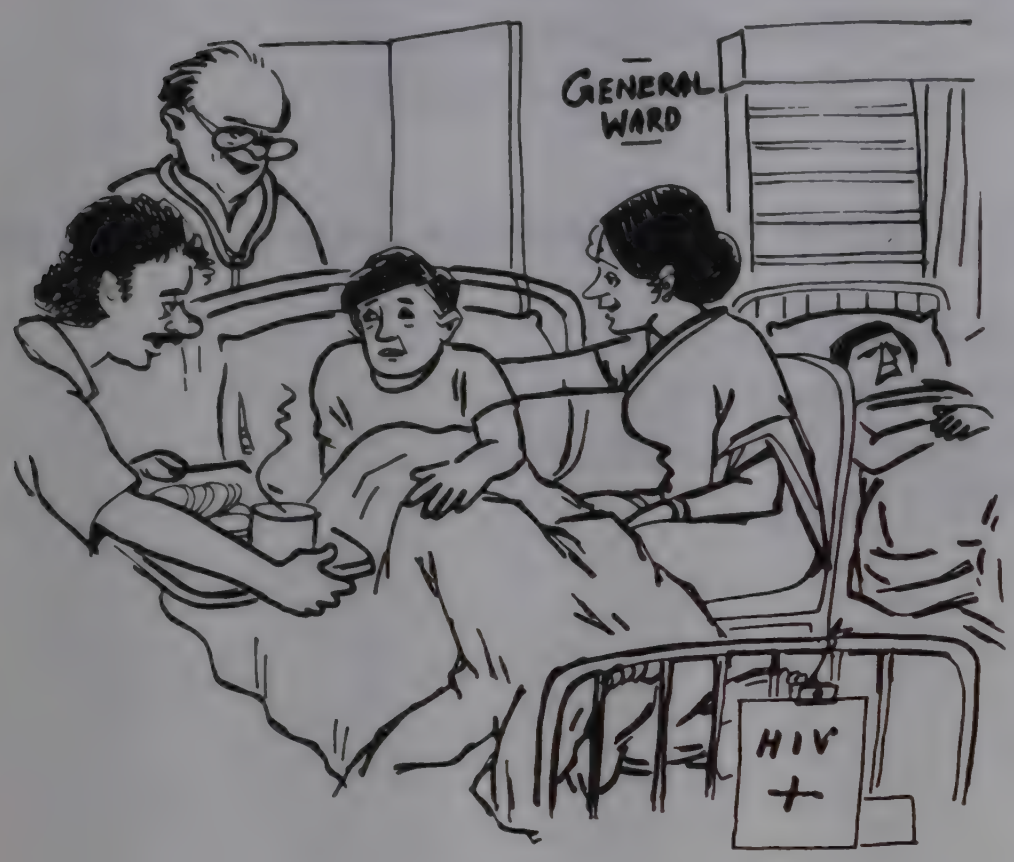
Numbers 15 and 16

**Activities**

1. Role play
   To demonstrate that HIV does not spread through normal day-to-day social contact. (see chapter 13)
2. Narrate a case study to demonstrate that the family is the main source of care and support in showing concern and compassion to HIV infected individuals. (see chapter 14)

# Chapter 13: ISOLATION AND DISCRIMINATION

There is no need to isolate AIDS patients to protect others from infection. However, it may sometimes be necessary to isolate an AIDS patient to protect him or her from surrounding infections.

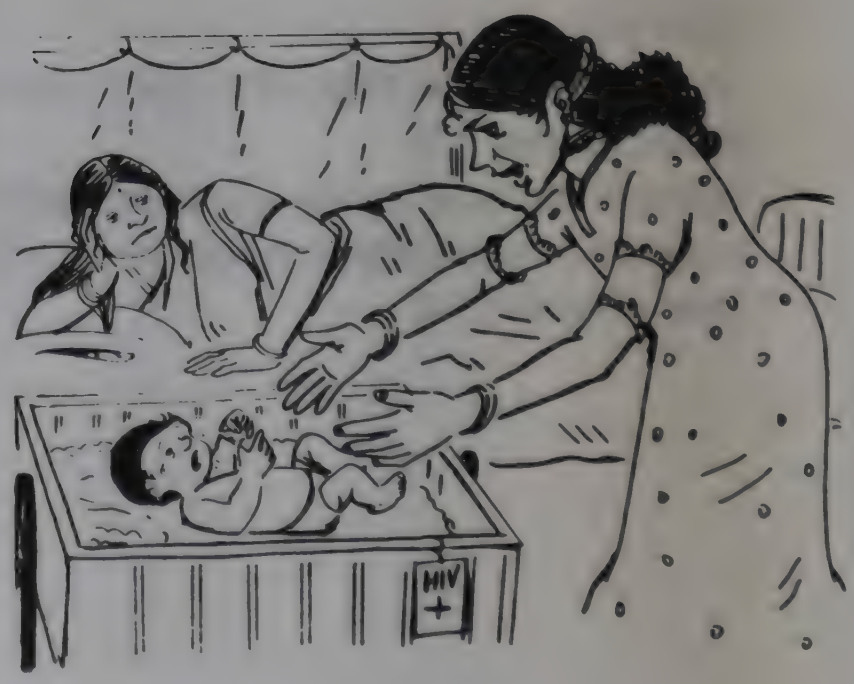



We must respect the human rights and dignity of persons with AIDS. Respect allows for discussion, for absorbing new information, and for better care, which are vital in preventing and controlling AIDS. Everyone benefits from such information, and people with the disease can be cared for in hospital or at home without risk to anyone.

On the other hand, discrimination against persons infected with HIV could drive them underground, making them inaccessible for counselling and treatment, which will not help control the epidemic. If HIV/AIDS patients are isolated it will make it more difficult to control the spread of AIDS.

People with HIV/AIDS will feel more angry and depressed if they are rejected or isolated. They will be less likely to be concerned about protecting others and will not have the support necessary to make difficult changes in their lives. They will not adopt safe sex because it might cause people to suspect that they have the virus and as a result they may be isolated.

One can help someone with HIV/AIDS by caring, in the same way one normally would, if the person were not infected. Talking to or hugging someone does not pass on the virus from one person to another. In such instances,



why isolate the HIV patients? There are also community projects that help educate people about HIV/AIDS and offer care and support for people with AIDS, their friends and families

***How can one help?***

1. Reduce anxiety by emphasizing that many virus carriers will live healthy lives for many years, especially if they take care not to get infected again. For eg., picture shows the teacher welcoming an infected student into the classroom, demonstrating that he poses no threat to others.
2. Point out that AIDS is no worse than many other diseases and accidents.

3. Help people to understand that they can protect themselves from HIV far more easily than they can protect themselves from many other diseases.

## PSYCHOLOGICAL PROBLEMS OF HIV/AIDS

HIV infected people face many psychological issues. These revolve around the uncertainty that they face and adjustments that they have to make. Fear, loss, grief, guilt, depression, denial, anxiety, anger, suicidal activity, suicidal thought, threatened self-esteem, pre--occupation with health, etc., are some outcomes of the disease. Loneliness and impending death can make them lose their self-control, deliberately infect others, leading to "AIDS-Terrorism". On the other hand, the affected persons may search for religious support to find an outlet for their expressions of sin, guilt, forgiveness, reconciliation and acceptance.

**Activity 1: Role play**

*Concept:* HIV does not spread through normal day-to-day social contact and therefore there is no need to isolate persons with HIV.
*Volunteers:* Six: (i) Vijay; (ii) father & mother; (iii) principal; (iv) doctor; (v) counsellor.
*Action:* A discussion is taking place between Vijay's parents and the principal. The principal is adamant about not letting Vijay attend school because he has HIV infection. With more persuasion from Vijay's parents the principal agrees to talk to a doctor and a counsellor. After listening to the specialists, he understands the mistake he has made. He allows Vijay into school and organizes an AIDS education programme.

# Chapter 14: CARE AND FAMILY SUPPORT

The family is the primary source of care and support for young children and continues to play a crucial role in the lives of teenagers, despite the growing influence of the peer group. Adolescents are less likely to experience serious problems in families where there is harmony and positive thinking. The family is a place where, when one needs people's help, it is always available. Discussion on this important concept will provide students opportunities to recognize the many functions that the family fulfills.

Communication within the family affects attitudes and behaviour; direct communication increases understanding of each other. Family members are better able to meet each other's needs with love and care.

Students should develop ways of coping more effectively with family conflicts. If families hold regular meetings and work more at communicating with each other and problem solving, there would probably be less conflicts in families.

Every family member should feel secure, show love and care for others, and be willing to consider each other's viewpoint even when they disagree.

## HIV/AIDS AND THE FAMILY

Families are the main source of care and support for many HIV-infected persons, including those with HIV-related diseases. The type of care required will depend on the stage of infection. As the patient's condition deteriorates, the demands on the family increase. The time and energy required and the emotional involvement will increase.

Other family members may experience the same kind of fears, of isolation and discrimination, as the infected person. As the infection progresses, family members may require counselling on the role of the family as well as the needs of the affected individual.

The family will also need some technical support. They will have to be informed of the medication, disinfection, the course of infection and treatment.

### *What should the relatives of an AIDS patient know?*

Before relatives take a patient home, they should know that:

AIDS is not spread through social contact; therefore he/she need not be isolated.
AIDS is not spread by skin contact.
AIDS patients need nutritious food to provide energy, protein and vitamins.
AIDS patients need to be touched with care and concern.
Sexual intercourse with an HIV/AIDS patient results in HIV-infection.
Blood, vaginal secretion and semen of an HIV/AIDS patient are infectious.
Clothes and utensils which have been in contact with body fluids of the patient should be: (a) boiled; (b) soaked in a disinfectant.

No restriction should be placed on social interaction such as visiting friends or having visitors in the home. Social practices such as hugging, holding hands or greeting with a kiss are not ways by which the virus can be transmitted and hence are safe.

Isolation of HIV-infected patients is not necessary unless they have other infections for which isolation is indicated, or unless it is necessary to protect them from getting infections from others because of their impaired immunity.

## Activity 2: Case study

Mark, a young college student, was feeling very tired and ill and had recurrent high fever. The doctor, suspecting HIV infection, gave Mark pre-test counselling and asked him to go for a blood test. The test revealed that Mark was HIV+. He was very upset and became depressed. When his family heard of it, they too did not know how to react to the news and how to face the crisis situation.

*Discuss and brainstorm:* If you were a friend of the family, what would your advice be? How would you help them tackle the situation?

**Anxiety/Depression**

**Worry/Confusion**

**Acceptance**

**After Counselling**

When a person becomes HIV infected, his/her family goes through a period of worry and anxiety. But, with proper guidance and counselling, the family learns to accept the situation and cope with the crisis, as seen in the illustration.

# Chapter 15: SOCIO-ECONOMIC IMPACT

AIDS affects people in their most productive age. The worst affected is the 18-44 age group. This is the most productive phase of an individual's life. This is also the most sexually active age group. The rampant spread of the disease among this group will have considerable direct and indirect impact on the social and economic aspects of society. These include increased spending on health care; a drain on health care resources, including hospitals, drugs and staff; loss of production and productivity in all sectors of the economy. If such a situation continues what will be the future of our country? Its development in every field will be impaired beyond imagination. AIDS can ruin the 'economic engine' of any country.

Further, because AIDS incapacitates people at ages when they are most required for the support of the young and the elderly, the impact on families with one or more HIV-infected members is enormous and is aggravated by the common stigmatization of people with HIV/AIDS. AIDS will also leave millions of children without parents. The situation in Africa should serve as an eye opener. The children orphaned due to AIDS will swell the ranks of street children, increasing the number of young people vulnerable to HIV infection.

In order to save a nation from the disastrous socio-economic impact of AIDS, the only solution is primary prevention programme development for young people. This need of the hour is emphasized by the fact that 80% of HIV-affected persons fall in the 18-44 age group, as shown in the pie chart below.

**Age in Years of HIV+ Persons**

| Segment | Age in Years | HIV+ in percentage |
|---|---|---|
| A | 18 - 44 | 80% |
| B | Below 18 | 19% |
| C | Above 44 | 1% |
| | Total | 100% |

## ADDITIONAL ACTIVITIES

## UNIT - V

### ISOLATION AND DISCRIMINATION

1. Crushing the paper exercise - How does it feel to be losing important persons/things?

Distribute small pieces of paper. Ask the participants to write down their most favorite persons or important things in their lives. Then ask them to imagine that they have been infected with HIV and to crush and throw away the pieces of paper, one by one.

Ask them "how does it feel to be losing those important persons/things"?

Discuss their feelings and opinions.

2. Reactions

This section is designed to introduce real life situations and provide the students an opportunity to verbalise personal fears and feelings about HIV/AIDS.

Q1. How would you react if you saw someone or know someone who is infected with HIV?

Note down the responses.

Q2. How would you feel if you took the antibody test and found out you were infected with HIV? What difference would it make in your life? Who would you tell?

**Encourage group discussion and empathy for infected individuals as well as exploration of personal fears and other feelings.**

# UNIT 6

# SELF-EMPOWERMENT WITH ACCOUNTABILITY

**Topic covered**

Chapter 16 Development of Life Skills

**Objectives**

1. To clearly understand the factors involved in development of personality and life skills.
2. To learn to be empowered, to make informed decisions for which one is accountable.
3. To develop the ability to recognize negative peer pressure and learn how to say 'NO'.
4. Application of life skills in health promotion and AIDS prevention.
5. To understand the difference between passive, aggressive and assertive behaviour.

**Suggested teaching methods**

Participatory interaction is crucial to success in teaching life skills. The class should be divided into small groups of four or five, preferably not self-selected. Suggested here is one way of grouping the participants: before starting the session, select the number of groups required. Choose that many names of flowers or animals and divide the class equally by assigning to each participant one of these names. This will ensure that groups are not self-selected. Each group will select a leader.

Each participant will need several slips of paper and a pen to record his/her responses. The slips of paper can also be used to encourage anonymous questions from participants. The educator should ensure that every group participates fully and not allow any one or two groups to dominate the brainstorming session. The participants should feel free to communicate and express themselves in the language in which they are comfortable.

**Flip chart reference**

Numbers 17 to 22.

**Activities**

1. Making good decisions: Case study (see section 16.2).
2. Thinking critically: Brainstorm (see section 16.2).
3. Fill up the self-esteem pot: (a) Exercise; (b) Game (see section 16.3).
4. Coping with failure: Case study (see section 16.5).
5. Saying 'no': (a) Role play; (b) Case study (see section 16.6).
6. Assertiveness training: Role play (see section 16.6).

# Chapter 16: DEVELOPMENT OF LIFE SKILLS

Life style strategies are personal and interpersonal skills. They enable people to use information in order to take charge of their health.

Behaviour is based on a variety of components, such as:

1. the knowledge or information regarding the issue in question;
2. the attitudes and values held by an individual;
3. skill in dealing with a range of adverse situations.

By teaching life skills to young adolescents, we are trying to prevent them from experimenting with drugs, alcohol and casual sex. These youngsters have to deal with the pressure of having their beliefs and value systems constantly challenged, even while they are trying to achieve their goals in spite of adverse situations.

We offer the empowerment approach to help teachers and parents guide and motivate students to make informed decisions about their behaviour and health, and learn to be accountable for it.

## 16.1 THE VALUE SYSTEM

Values can be considered as roots, giving meaning to our life and its activity. The changing socio-economic and political scene, exposure to media, varieties of information, and peer pressure demand that adolescents think critically and build up their own value system on the basis of universally accepted principles. The process starts with raising self-awareness about health, career and life. This continues through value clarification and growing commitment, until the values become a consistent aspect of the person's behaviour.

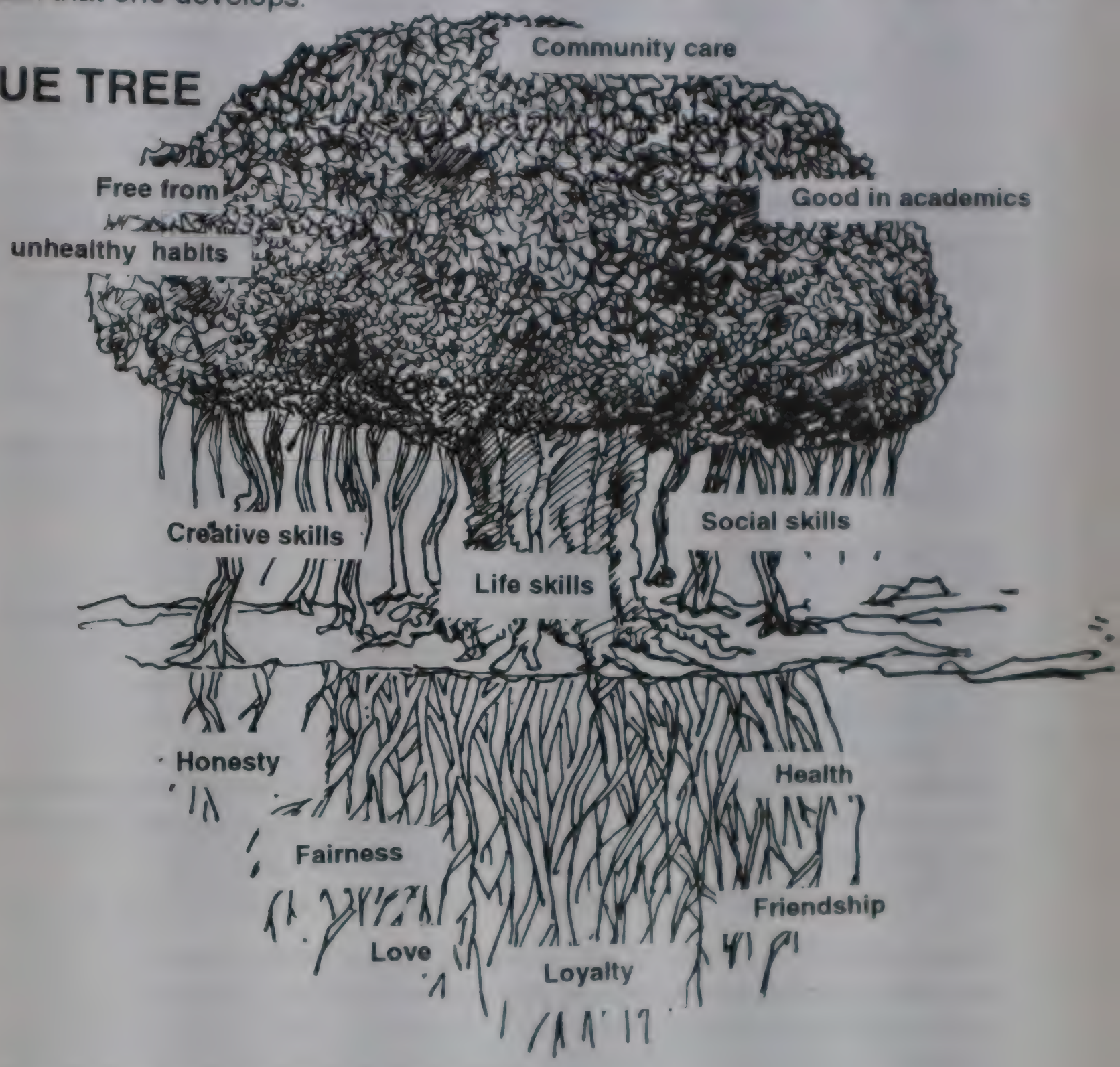
### *Family*

The family stands for certain basic values necessary for living usefully and meaningfully. Only if the sapling is fenced properly will it grow and become a strong tree; so too, with young people.

A person with a wholesome personality is one who has strong mental, physical and cognitive skills which enable the person to behave, relate to and act effectively in the society in which he/she lives. Value based actions undertaken by such a person are beneficial to society and less influenced by unfavourable conditions. Certain self-evaluatory and self-disciplinary skills can enable students to see the applicability of values and the benefits that come from the value systems that they have developed.

***Value tree***

A flourishing, healthy tree symbolically represents a human life. In the diagram, the roots are basic values and personality traits that reflect these values. The trunk represents skills and the branches are the different directions in life that a person is able to take to reach various goals. The entire tree represents the life of a person — the way one builds it and reaches one's goals. The tree is held firm by the roots. Similarly, the roots of human life are the value system that one develops.




## 16.2 DECISION MAKING AND CRITICAL THINKING

Young adolescents must be given opportunities to practice making decisions. They need to become self-directed individuals with a capacity for critical thinking. If decisions are made by adults who severely regulate a child, the child is going to let others control his or her life. As a result the child will not make an attempt to make decisions. Adolescents have to make

choices; some are harmless and inconsequential; some have long lasting and harmful effects. If there are negative outcomes due to some decisions that were not well thought out, it will eventually result in an adolescent who is frustrated and unhappy.

The young teenager who is experiencing a period of rapid and intense physical, psychological and emotional changes is very vulnerable to all stimuli in the environment, easily influenced by a wide variety of messages and information. Students need to look closely into the messages or stimuli, be critical about those that have a direct impact on their daily life, especially those that affect their physical and emotional well being (e.g. use or abuse of drugs / alcohol).

**Activity 1: Making good decisions**

*Case study:* Ram and Suresh are good friends. Ram is in the XII standard and Suresh is doing 1st year B.Com. The boys are very close to each other. They discuss everything, tell each other all their secrets, academic options, etc. Suresh invites Ram to his birthday party. There are other college boys and school boys. Suddenly Ram realizes that Suresh is drinking. Suresh has already had two mugs of beer. Now Suresh is insisting that Ram should drink. Ram is very surprised at Suresh because:

(i) Suresh never told Ram about his drinking inspite of their being the best of friends.
(ii) Suresh is insisting that Ram should drink even though Ram does not want to.

How can Ram make the right decision?

*Guidelines:*Use the concept "My decision tree" to discuss the case study and apply the decision making model. What should Ram do?

(i) Ram should be assertive.
(ii) Ram should realize that alcohol breaks down inhibition.
(iii) Ram should withstand peer pressure. He should realize that there is no threat to his manliness in saying 'no'. He should understand that alcohol can ruin one's physical and mental health and can lead one to high risk behaviour.
(iv) Ram can feel good and proud of saying 'no' to unhealthy peer pressure.

*Discuss* how Ram is able to withstand the peer pressure. What are the variables that help him to make the decision to say 'no' to unhealthy peer pressure? For example, there could be the positive influence of family, development of gainful leisure time activities, knowledge of health and nutrition, intellectual pursuits, development of high self esteem, etc. For a decision to be acceptable it should be:

(a) Safe and healthy
(b) Show respect to one's self and others
(c) Follow one's moral and ethical values
(d) Respect family guidelines or values.

***A personal decision-making model***

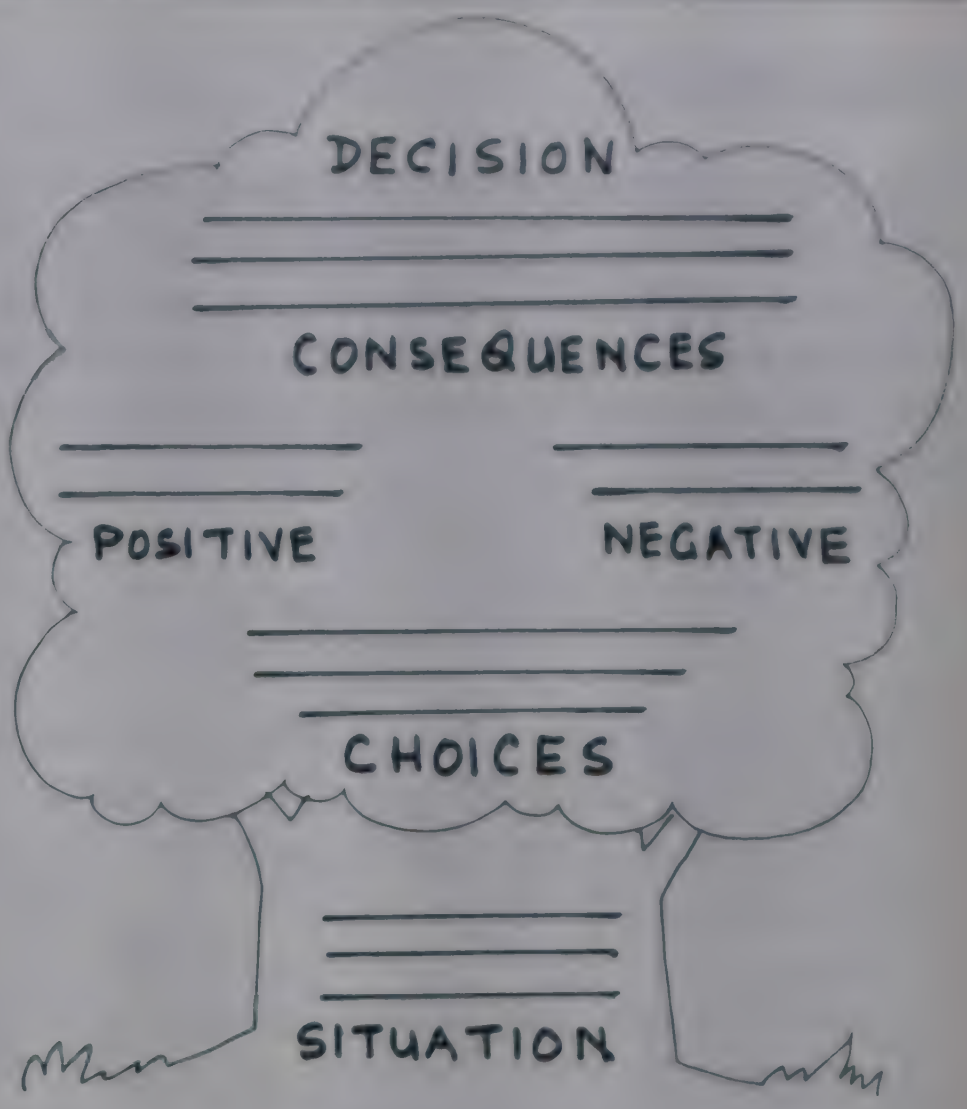
1. Define the problem or decision to be made. Research the topic. Discuss common values.

2. Identify alternative courses of action. Brainstorm alternatives. Be assertive.

3. Consider the positive and negative consequences and possible outcomes of each alternative. Consider common values, attitudes and knowledge.

4. Choose a course of action from the alternatives.

5. Evaluate the outcomes.




**Activity 2: Thinking critically**

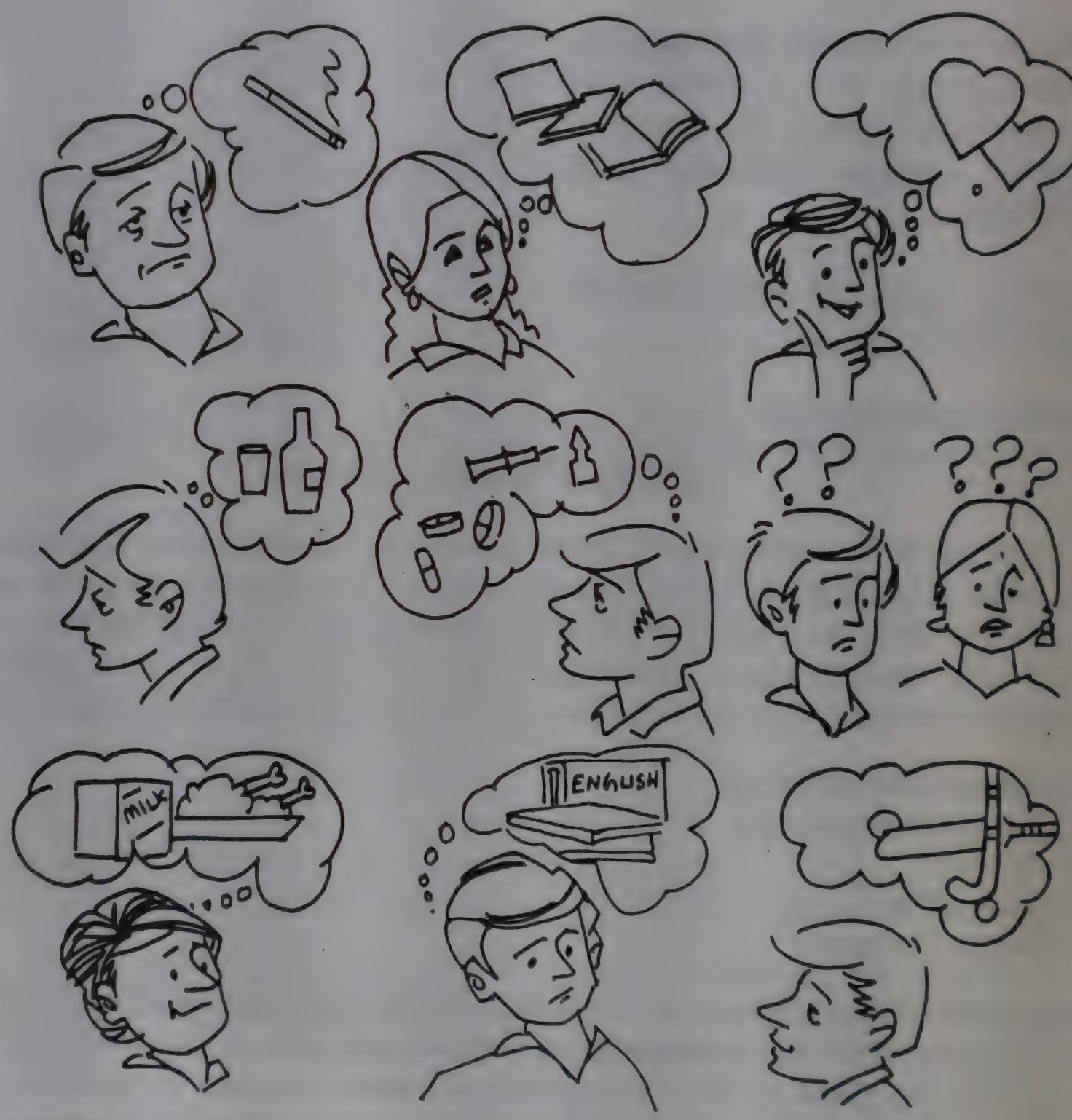
Ask participants to identify some decision that they have to make. Record them. Discuss what it takes to make a decision. Choose a value and take the participants through the decision-making model. Developing skills in critical thinking when confronted with choices about health and behaviour will help them to make informed decisions. The framework provided could be used to discuss behaviour related to:

(i) Nutrition (eating habits)
(ii) Leisure time activities
(iii) Hygiene
(iv) Body care
(v) Sexual behaviour.

The purpose of this activity is to encourage the participants to think critically about the influence of alcohol, drugs and tobacco in our society, especially among adolescents. Emphasize the need to think critically and make decisions in situations involving alcohol, tobacco or other drugs. Brainstorm issues like: "Why do people use drugs?" "What may be some of the reasons why a person turns to alcohol?" "Has the use of drugs and alcohol become a serious problem in our society?" "Why do you think teenagers start using (i) drugs, (ii) alcohol, (iii) tobacco? Do you think teenagers should avoid the use of these substances?"

### *Critical thinking*

The ability to make correct decisions may not be a natural process of growing up. Adolescents should be guided to think and analyze critically about a variety of issues. They should be able to form opinions based on a certain value system. Their sense of 'right' and 'wrong' will help them to make decisions. Critical thinking forces an individual to examine the facts and the information available carefully before acting, thus helping them to make wise decisions.




## 16.3 SELF-ESTEEM

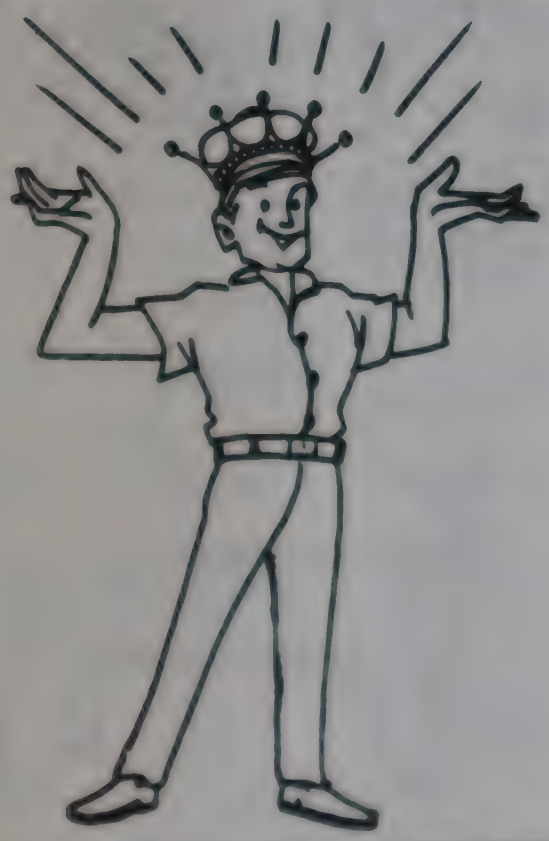
The importance of self-esteem in personality development is well established. Self-esteem or self-concept is an integral part of personality which an adolescent should develop, in handling peer pressure and decision making.

**Story: Happy valley**

Once upon a time, there was a village in a valley. Everyone in the valley was very happy. There was a lot of warmth and kindness. Everybody had plenty to eat and share. There was no police. There was no jail. There was a man in the mountain who didn't like this. He came down from the mountain to find out the reason for their happiness. He noticed that whenever a person visited another person, he would give him a 'warm fuzzy'. A 'warm fuzzy' was round, soft and light and it brought out the best qualities in the person. Its unique feature was that it would multiply whenever it was given to someone. One night, the man from the mountain crept into the village and stole all the 'warm fuzzies' and placed a 'cold prickly' in each house.

'Cold pricklies' are hard, full of thorns and hurt. The people got worried that there were not enough 'warm fuzzies' and stored those left over. Now they started exchanging 'cold pricklies' instead of 'warm fuzzies'. Soon there were a lot of problems in the village. There was no harmony. A police force was established; jails were built and were becoming full. There was shortage of food. Happy valley became unhappy valley. This continued for some time, when a traveller entered the village. He was surprised to see the village in this state. He asked the villagers what had occurred. When he found out that some 'warm fuzzies' were hidden, he appealed to the people to find these and exchange them freely. Soon, the village had a lot of 'warm fuzzies' and the people were happy once again.

'Warm fuzzies' are good words, warm smiles, genuine feelings, good thoughts, a pat, etc. These should be exchanged freely, given directly and accepted gracefully. If these are exchanged freely, our self-esteem is high. 'Cold pricklies' are resentment, jealousy, selfishness, anger, criticisms, etc. If these are exchanged freely, our self--esteem becomes low.



Some factors that directly enhance self-esteem are positive thinking, self-confidence and ability to cope with failure.

Individuals who have high self-esteem are more realistic in their approval of self and others. They are less wounded by criticism and more able to profit by it; less anxious for approval, more ready to participate, more inclined to aim high, more consistently successful and less daunted by failures than those whose self-esteem is low.

Self-esteem is a personality trait, a learnt response which, with re-education and re-enforcement, can be

positively modified. A teacher who offers every child success at his or her own level, and also has the gift of making every child a valued, significant and respected member of the class, can easily raise the self-esteem of the child.

**Activity 3: Fill up the self-esteem pot**

(a) *Exercise*

Draw a pot full of water on the board.
This is a self-esteem pot.
If the pot is full, then self-esteem is high. What do you infer from this?
If the pot is not full, then self-esteem is low. What do you infer from this?
How can the pot be filled? (ie., How can you raise your self-esteem?)
Brainstorm ways of building self-esteem.

(b) *Game*

The educator can organize this game among several small groups of participants who are familiar with one another. A blank paper should be pinned on the back of each participant. Everyone should write one genuine nice comment about the person on the paper. At the end, each member can read out aloud the 'positive strokes' given to him/her.

## 16.4 POSITIVE THINKING

A person's thinking process is influenced by his ability to analyze, introspect, evaluate any phenomenon in a particular way. People who are in their adolescence are to be guided to become aware of the thought processes that are taking place within them. This is possible by consciously developing positive thinking. Every student can be trained to start thinking positively in every classroom and real life situation. Positive thinking is a process that provides an approach to getting the best out of a given situation; it strengthens the personality in general and self-esteem in particular.

### *Attitude towards problems*

A tumbler which contains water amounting to half its capacity can be seen in two different ways:

1. The tumbler is half empty.
2. The tumbler is half full of water.

The former is a pessimistic view and the latter is a sign of positive thinking. Parents and teachers are in a position to modify children's ways of viewing things such as life, challenge, competition and setbacks, by making them realize their own strength and capabilities.

The whole process of positive thinking is to lead the person to face, play and realize life. Today's life has more competition and less co-operation. In every field persons are pitted against one another and excellence is widely proved on the basis of survival of the fittest, rather than on competencies. This is a negative development and students should not fall prey to or become victims of the competitive world.

***How do we develop positive thinking?***

A person starts feeling confident when he/she is encouraged at the right moment and in the right direction. Every person performs a right action or takes a right decision at some time or other. The positive strokes from parents, teachers and elders at this moment, are instrumental in developing self-confidence in the person.

There are certain beliefs that lead to development of positive thinking:

1. Believe that every situation is a new one. Lessons from past experiences should be taken; but do not equate the present situation with past experience.

2. Fear of consequences destabilizes confidence in taking decisions and evaluating the situation.

3. View all problems and situations as a thrilling game, to be played carefully and committedly. Negative outcome does not mean that you are worthless.

4. Don't take a decision or take up any issue when you are at a heightened level of emotions like anger, sorrow. Allow some time to pass, and feel that these emotions were never yours.

5. There is no one in the world who is free from problems and hardships. We usually think that our problems are great.

6. Believe that every problem has a solution, just as every lock has a key.

7. Live up to your principles. A task may die but let not principles die.

8. You can change or modify your behaviour. Don't blame your nature which is nothing but repeated practice.

**Story**

A clock came to know that it had a two-year guarantee period. In this period it would have to strike 6,30,72,000 seconds. The very thought of striking so many times made it absolutely tired, so it stopped in a week's time. Another clock noticed this and said that it was happy to know that the clock had to strike only once every second. As it had to concentrate for that moment only, it could take rest between seconds. Now, the first clock started to work enthusiastically.

## 16.5 COPING WITH FAILURE

The decisions we take and the activities we do are aimed towards reaching an objective. There are occasions when things do not turn out as we thought. The impact that the failure made on us is sometimes more disastrous than the failure itself. So we need to clarify and approach the problem carefully, so as not to become victims of our own thoughts.

The feeling of failure is a subjective reaction to an unexpected, unfavourable outcome. Perception of failure cannot be generalized since the mental make-up, attachment towards the task or importance attached to the outcome vary from person to person, from situation to situation, and from time to time. The same person may perceive an outcome as a failure at one time and not so at some other time.

Coping means tackling the state of one's mental or physical disequilibrium by adopting the next best possible alternative.

The innate drive of every person to reach a balanced state of mind is nature's gift to help us out of an unwanted situation. Every person's growth has a history of coping behind it. At the students' level, with less experience and with more expectations in academics, sports and special activities, they are likely to face setbacks and failures. These failures should not impair their development. As a preparatory platform to face the challenges of life, the young will have to be properly trained to cope with unexpected outcomes.

Our task of carrying the message of "FAILURE CANNOT CONTINUE TO BE FAILURE IF WE CONTINUE TO GROW" gains importance. Alternatives have to be put forward before young people or they have to be helped to identify the alternatives. Students who feel a sense of control and responsibility in life, remain self-confident even where there are occasional failures. Success or failure are not as important for students as are self--confidence, the feeling of responsibility and self-control.

Inability to cope with failure may result in low self-esteem, dejection and, ultimately, in depleting one's sense of competence. This is the psycho-social process which a person undergoes.

## Activity 4: Coping with failure

*Case study:* Pradeep, a XI standard boy, was very active in school and in the family. He was doing well in his subjects and played cricket regularly in the evenings. One day, while returning home on his bicycle, he met with an accident. The doctors told his parents that his right leg was permanently impaired. The leg had to be amputated. For some time he felt depressed as this put an end to his dream of becoming a professional cricket player.

*Brainstorm:*

What are the options available to Pradeep?
How can he come out of the state of depression?
How can this failure be viewed?
What can he do, to cope with the setback?
Has anyone known to you experienced disappointment and come out of it well?

***Psycho-social process of coping with failure***

1. Rejection (of failure) — "I don't see any failure."
2. "Why me?"
3. "Why not them?"
4. Blaming others.
5. Fear of consequences.
6. Feeling depressed and lowered self-esteem.
7. Steady and conscious recovery from state of depression.
8. Accepting failure.
9. Not indulging in self pity.
10. Assessment of self (strengths and weaknesses).
11. Exploring options, finding alternatives.
12. "I've coped with failure."

Those who cope with failures have certain essential characteristics. Some of these are:

Keeping themselves busy.
Being productively involved in meaningful activities.
Getting things planned and organized.
Developing close relationships with family and friends.
Developing positive and optimistic thinking.
Perseverance in a task undertaken.
Regular relaxation / meditative practices.
Sense of self-content.
Getting involved in the present.

Many live in the past or dream about the future, but do not realize the worth of the present. Any present condition / outcome is undoubtedly a product of the past, but the present is a seed of the future. By motivating students to live in the present and training them to fuse the means and ends of the task, we can achieve much towards fulfilling our task.

## 16.6 SAYING 'NO' TO UNHEALTHY PEER PRESSURE

The theory underlying the self-empowerment approach is based on liberal principles of education where individuals are free to make their decisions and be accountable for them. Some young people cope well with teenage years and some others find it stressful. Sources of stress are: identity crisis, the need to belong, lack of appreciation from parents or teachers, instant gratification seeking behaviour, need to find audience for non-conformist or non-traditional attitudes and, most important of all, to be popular or well liked. Then there are those who live for 'kicks'. These desires are reinforced and transmitted by mass media, teenage magazines, fashion aspects of mass media and cinema. To belong to a peer group, experimentation may often be a part of some persons' 'initiation' into the group. So they give in to unhealthy peer pressure.

It is very common for youngsters to have a role model. The model's ability to deal with adverse situations and their value system will directly influence adolescents. Parents and teachers are usually the role models for young students.

**Story: Children are influenced by what they see**

A shopkeeper had sold two of his parrots to two different customers. After a month, he happened to go past the houses of both these customers. When he was walking along the first customer's house, he heard the parrot saying, "Please come in, please do come in." The shopkeeper was very happy.

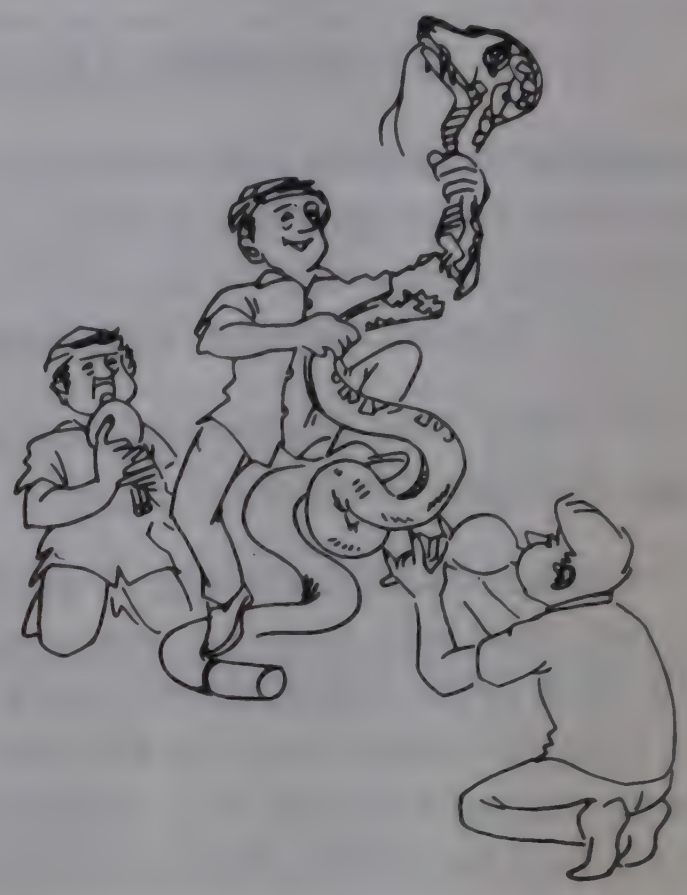
When he came near the second customer's house, he was shocked when the parrot shouted, "Kill him, shoot him!"

The shopkeeper was surprised. "I sold both parrots on the same day; they are of the same kind. Now why is it that one is very hospitable while the other is very rude?" He thought for a while and suddenly got the answer. The first customer was a very warm and hospitable person and so his parrot was also very kind and loving. The second customer played the role of a villain in dramas and therefore the parrot, seeing him rehearse, had taken the villain as its model.

After becoming a victim of alcohol or drugs, the youngster feels alienated and lonely. He/she asks, "Where are those friends I wanted to associate with?" The fact is that those friends were never real friends and will certainly not come to the person's help later, as shown in the illustration.

Failing to cope with psychological problems related to sex, identification, dependency needs, control of aggression, early social or emotional deprivation or lack of interpersonal relationships, youngsters turn to alcohol, drugs and casual sex, to which they are often introduced by their peers. Undoubtedly these are pseudo coping strategies. The illustration personifies such unhealthy forces as devils.

Youngsters have to make choices that will help their lives in major ways. If they know the facts, have the self-confidence and the ability to make well thought out decisions, saying 'no' to peer pressure becomes easy. Saying 'no' for the first time is the most difficult. But once it is said, one feels that one has conquered oneself. One can say 'no' more effectively the second time and thereby leave no room for persuasion. Unhealthy peer pressure is powerfully constricting, like a python which tries to strangle a person. This force can be overcome with effective life skills; the snake can be overpowered, as shown in the diagram.



**Activity 5: Saying 'no'.**

Be empowered to say 'no' to unhealthy and unsafe practices.
Be empowered to ask for only screened and tested blood, if and when transfused.
Ask participants to imagine and act out how people might try to pressurize them into an unsafe/unhealthy practice; how would they say 'no' in an assertive way — firmly and politely? *For example, when asked to*: (i) go to some place with someone you don't know well and think it is not right to be alone with; (ii) have a cigarette; (iii) drink alcohol; (iv) try taking drugs; (v) have sex. Practice saying 'no' in such circumstances, regardless of the level of pressure.
Demand assertively for safe blood or sterilized needle.
*Role play:* Place the participants in groups or pairs and let them choose a situation to practice saying 'no'. In each group, one or two of them are the persuaders and the others are the 'no-sayers'. They act out the situation.
*Guidelines for no-sayers:*
How did you feel when you were asked to do something that you didn't want to or that you thought was unsafe?
How did you feel when your friend/peer would not accept your 'no'?
In a real situation, what might make you change your mind?
*Guidelines for the persuaders:*
Why did you want to put pressure on your friend to join the unhealthy activity?
How did you feel when your friend said 'no'?
*At the end, brainstorm the following issues:*
Why is it important to say 'no' to unhealthy practices?
How will you develop the ability to say 'no'?
What skills are necessary to help you lead a healthy life?

The ability to cope with failures, to plan leisure time activities, to communicate well with peers, parents and teachers, and assertive behaviour, will help students to deal with unhealthy peer pressure.

The teacher should get the students to think about life situations. Students should be able to define peer pressure, identify the pressure, both positive and negative. The goal is to teach the students to be 'assertive' as a way to say 'No'. The verb 'assert' means to state positively, assuredly, plainly, strongly, smoothly and convincingly. Being assertive does not mean being aggressive.

If one is assertive one can

1. Stand up for one's own values and needs.
2. Take control of one's own decisions.
3. Trust and value one's own feelings.
4. Recognize and use non-verbal communication.
5. Recognize the attempts of others to control.
6. Be proud and take pleasure in saying 'no' when one wants to say 'no'.

**Activity 6: Assertiveness training**

Role play
*Volunteers:* one hotel waiter; three customers — one passive, one aggressive and one assertive.
*Situation:* A hungry customer goes into a restaurant and places an order. The waiter brings a dish which the customer did not ask for. There are three ways to react to this; each way could be enacted.

(i) The customer is unhappy, but quietly accepts the dish. He is being passive (not desirable).

(ii) The customer gets very angry and verbally abuses the waiter and the management and leaves, but remains hungry. He is being aggressive (not desirable).

(iii) The customer calls for the waiter and politely, but firmly, expresses his unhappiness. The waiter brings the right dish and praises the customer for his nice behaviour. The customer is being assertive (desirable).

***Leisure time activities***

Students who are gainfully busy during their leisure time are less influenced by unhealthy lifestyles. Gainful leisure time activities include sports, reading, music, hobbies, helping others, appreciation of nature, spending time with family, etc.

Every student should be encouraged to develop a hobby or an activity, either in school or at home, which will kindle his/her thinking and creativity. The idea is not to have any time to be idle and aimless. An adolescent who is not able to plan his leisure time often joins a group of peers who are also aimless. These are the young people who are prone to high risk activities. Often, to justify these activities, they become defiant and don't want to hear any advice or suggestions.

Parents have a responsibility to introduce their children to various activities and help develop them. They should have some special family time when the children feel free to discuss anything.

Schools should encourage participation in activities like National Service Scheme, Red Cross society, Scouts and Guides and other clubs to develop meaningful leisure time activities. Some leisure time activities are illustrated below.

## ADDITIONAL ACTIVITIES

## UNIT - VI

## COPING WITH FAILURE

### The Pits and the Peaks

Draw a continuum on the board. On the right side draw a mountain peak and label it "The Peak". On the left side draw a hole and label it "The Pits". Between the two write "situations".

Divide the class into four groups. Each group will duplicate the Pits and Peaks continuum on paper. Explain that this diagram will help to illustrate that every situation can be viewed in different ways.

Each group is then given a situation as listed below:-

* Failure in examination
* Not selected for school team
* Rejected by your friend
* Friends laugh and tease you.
* Your poor/moderate performance being compared with that of your sister/brother who has got outstanding results.

Ask the students to write any negative feelings they might have and the negative actions that might result under the 'Pits'. Similarly the positive feelings and actions can be listed under the 'Peaks'.

Explain that the students have two options - to climb the 'peaks' or to fall into the 'pits'. Explain that they can choose to walk towards the 'peak' and attempt to climb it, making the best of the situation or they can choose to crawl into the pits' because of unwillingness to change negative behaviour.

Everyone experiences negative feelings . This is normal.

What we should try to do is learn from them and choose a positive course of action. The way to manage emotions constructively is to accept our feelings, learn from the negative ones and choose positive feelings and actions as often as possible.

## ADDITIONAL ACTIVITIES

## UNIT VI - 16.6

### ASSERTIVENESS TRAINING Through ROLE PLAYS

Ask for student volunteers. Brielfy demonstrate a few of the following situations and role play what an assertive, aggressive or passive person might say or do:-

1. Some of your friends are going to a neighbour's house to have a drink. You totally disagree with this habit. What will you say and do?

2. Some friends want you to sneak out on Friday night after the time that you and your parents have agreed you should be at home. Your parents trust you and you don't want to betray their trust. What will you say and do?

3. Your group of friends is ganging up on a person who supposedly started some rumours. You are quite sure this person is innocent. What will you say and do?

4. Your friends are shoplifting while you are in the shop with them. You do not want to steal. What will you say and do?

In each case ask the following:-

1. What did the aggressive person say and do?
2. What did the assertive person say and do?
3. Why is assertive behaviour better in friendships?
4. How does it help both the person being assertive and the persons being dealt with.
5. Illustrate the behaviour of a passive person and its outcome.

LEARNING TO BE ASSERTIVE

Divide the class into three groups. Group 'A' is the JUDGES, group 'B' the GANG and group 'C' the ASSERTIVE RESISTANTS.

The gang's role is to try and get the resistants to go along with them for some wrong doing - e.g., buying alcohol, stealing or skipping a class. The resistants use as many assertive skills as they can think of, not to go along with the gang. For a 2-minute period the gang and the resistants play our their roles.

The judges observe closely taking notes. At the end of the time they announce the verdict about which group - the gang or the resistants, was more convincing and why.

Take time to discuss the verdict and how assertive behaviour can help in resisting negative peer pressure.

# UNIT 7 PREVENTION AND CONTROL OF HIV/AIDS

**Topics covered**

Chapter 17 Prevention at Individual Level
Chapter 18 Prevention at Community Level

**Objectives**

1. To understand that there are four specific ways of preventing HIV/AIDS completely.
2. To realize and act upon the fact that the motivated force of committed individuals acting collectively is the only way to control this disease.

**Suggested teaching methods**

Small group discussions

**Flip chart reference**

Numbers 23 and 24.

**Activities**

1. Making posters with AIDS-related messages
2. Organizing AIDS awareness programmes for the school/community
3. Encouraging annual day / sports day competitions like quizzes, slogans, songs, skits, and plays, with reference to AIDS awareness and control.
4. Forming an anti-AIDS club.

# Chapter 17: PREVENTION AT INDIVIDUAL LEVEL

An individual will find it an easy task to avoid HIV infection. It can be prevented through relatively easy measures and precautions, in just four ways.

1. Sexual transmission has been linked to specific sexual practices, for example, unprotected vaginal or anal intercourse with an infected partner. Therefore, abstinence from pre-marital, extra-marital or casual sex and/or following strict guidelines for safer sex minimizes this risk.
2. The exclusive use of clean and personal (sterilized or disposable) needles and syringes eliminates the risk linked to needle-sharing. Also, one should avoid injections, if possible.
3. Transfusion of HIV-infected blood or blood products is a highly efficient mode of spreading infection. Concerted efforts should be made to minimize the risks involved by (i) avoiding unnecessary (eg. one unit) blood transfusion; (ii) transfusing only tested, HIV-free blood; and (iii) advocating voluntary blood donations from healthy individuals with a risk-free lifestyle.
4. Prevention of vertical transmission, from infected mother to child, depends on the ability to identify women who are at risk and counselling them to avoid pregnancy. Counselling should be provided in respect of abortion or effective use of contraception.

Occupational risk of HIV infection applies to lab technicians, para-medical and medical practitioners, and others who handle human blood. The risk to health care personnel can be minimized by following existing guidelines for universal infection control.

At the moment, the only weapon to fight this virus is educational intervention to break the chain of infection from a HIV infected person to an uninfected person. AIDS control programmes have specific prevention programmes to:

1. prevent sexual transmission of the disease through information and education;
2. prevent transmission of HIV infection through blood by making all blood and blood products safe, curbing IV drug abuse, educating and treating those who practice it and ensuring that injection equipment and other skin piercing instruments are always sterile;
3. prevent the spread of HIV infection from mother to child; and, finally,
4. help people already infected with AIDS virus in their responsibility to protect others.

## 17.1 PREVENTION OF SEXUAL TRANSMISSION

Upto this year, the majority of HIV infections throughout the world, and particularly in developing countries, have been acquired via sexual intercourse, mostly heterosexual. The sexual transmission of HIV is dependant upon the type and frequency of sexual behaviour by individual persons.

### *Adopting safer sex practices*

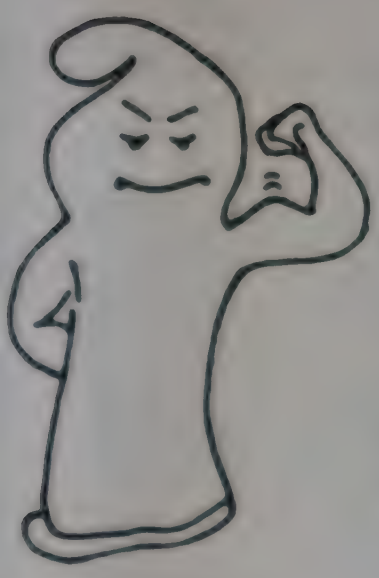
HIV is not contagious and the infection is transmitted only through physical inoculation of blood, genital and other body secretions. The virus is transmitted by the penetrative sexual act in which HIV-infected semen, vaginal or cervical secretions, or blood is exchanged. Hence a change of sexual behaviour, from high risk to responsible sexual behaviour, has become necessary. This is the essence of safer sex.

Safer sex does not simply mean using a condom and reducing the number of sexual partners. It also means being able to express sexuality in ways that prevent transmission of HIV and other infections. It takes into account the complexity of human nature, while enabling individuals to have more control over their own sexual relationships.

### *Monogamy and safer sex*

In the context of heterosexual transmission, having no sex at all is 100% safe. But it is not a realistic alternative. Having sex with only one (uninfected) partner — monogamy — is usually very safe, provided it is lifelong. An agreement to be sexually faithful to each other implies trust. Reducing the number of sexual partners is the safest first step an individual can take towards eliminating unsafe sexual practices. If one has more than a single sexual partner, then the least one can do is to have safer sex through proper use of condoms.

### *STD and HIV*



Sexually transmitted infections are a serious problem because they threaten health in a variety of ways. They can cause sterility, infertility, still births, miscarriage, blindness, brain damage, disfigurement, cancer, and even death. They also threaten the new born, because they can be passed from infected mother to child. Sexually transmitted infections that cause genital lesions or inflammation can increase the risk of sexual transmission of HIV.

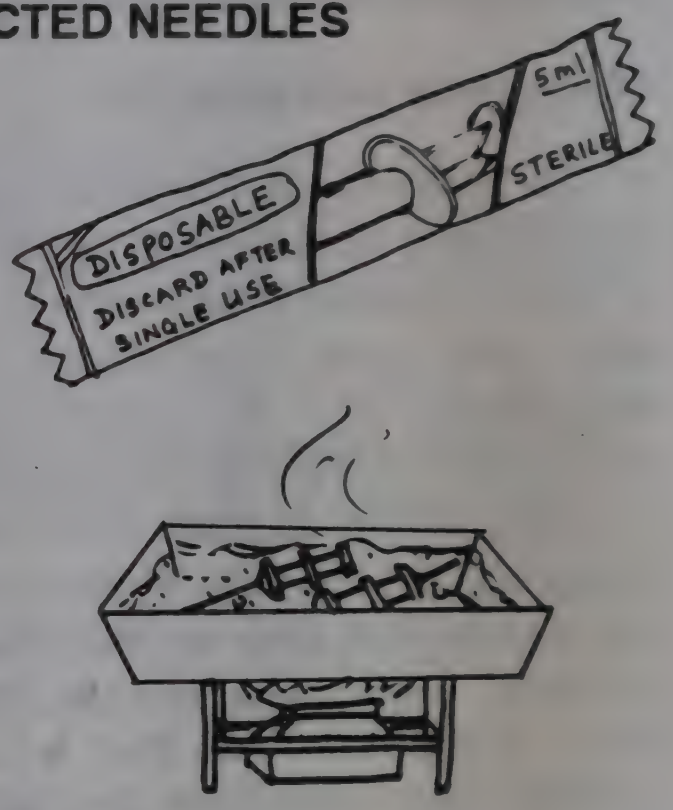
Some sexual practices carry greater risk of spreading HIV than others. Penetrative sexual intercourse carries the greatest risk of HIV transmission. Penetrative sexual intercourse without a condom, which may cause

local trauma or bleeding due to abrasions, is more likely to transmit HIV sexually. It is essential that the barrier method, in the form of condoms along with water-based spermicides like nonoxynol 9 or, at least, condoms alone (lubricated) should be used.

Although condoms provide good protection, they can never be 100% safe because they can sometimes tear, break, slip off during intercourse. But the risks are much less if used properly, every single time.

HIV infection is closely linked to other sexually transmissible diseases. Therefore, efficient and accessible STD control programmes can play an important role in the control of the epidemic of HIV infection.

## 17.2 PREVENTION OF TRANSMISSION THROUGH INFECTED NEEDLES




This is possible generally through ensuring the use of sterilized needles or disposable needles. Behaviour associated with intravenous drug use is difficult to change. The sharing of needles and other paraphernalia, of paramount importance in the transmission of HIV, is motivated partly by the addiction itself (that is, the pressure to immediately satisfy one's needs), and partly by a shortage of clean equipment. Encouraging such users to go to clinics/centres for obtaining clean equipment will lead to an ideal opportunity to counsel them on risk reduction and a change to a safe lifestyle. There is now evidence that drug users can and do change their unsafe behaviour.

Prevention of the transmission of HIV focuses on the widespread availability of drug treatment facilities, supply of clean needles and syringes, counselling and rehabilitation. Prostitution is a common source of income for IV drug users. Therefore, prevention, education and intervention among drug users will also have to deal with the possibility of sexual transmission of HIV infection.

## 17.3 ASSURING A SAFE BLOOD SUPPLY

Transfusion of HIV-contaminated blood is a very quick mode of transmitting the virus. Antibody test for screening blood donors and careful selection of blood donors having risk-free lifestyle, make for effective prevention of HIV transmission through blood. This aspect has been explained in detail in the chapter on blood safety.

## 17.4 PREVENTION OF TRANSMISSION FROM MOTHER TO CHILD

Women who are infected with HIV will need special counselling and medical attention, if they are pregnant. Termination of pregnancy as an option should be discussed sensitively, and the decision should be left to the mother. She should be told that the risk of HIV transmission to the unborn child is estimated to be between 20% and 40%.

Women who are infected and are considering pregnancy should be counselled about the advisability of avoiding pregnancy. It is better to involve the husband or the sex partner of the infected woman in the preventive counselling session.

Women who are at high risk of HIV infection have to be motivated to change to a risk-free lifestyle if they want to conceive. They have to be also empowered to make choices that will ensure their well-being. For example, if a woman is unsure of her partner's lifestyle, she should be empowered to question him and take the necessary precautions.

## 17.5 PREVENTION OF HIV TRANSMISSION IN THE WORK PLACE

The risk of HIV transmission in the work place is virtually limited to medical and para-medical personnel, in so far as they do come into contact with patients' blood, and to laboratory technicians who either take or handle blood and serum or are involved in virus culture.

Preventive measures follow general guidelines and these should be observed in all contacts with patients, not only with known seropositives or AIDS patients, but also in cases where the patient's sero status is unknown. Preventive guidelines include:

1. Wearing gloves whenever there could be contact with patient's blood or body fluids.
2. Wearing masks and eye protection whenever splashing or aerosol formation could occur.
3. Not covering disposable needles, blades of knives or instruments with their original cap after use, but disposing of them in specially designed hard plastic containers.
4. Use of an adaptor with nasal resuscitation.

It is important to understand that HIV does not spread through normal day to day social contact. People working with HIV-infected persons in schools, factories, offices, etc., need not at all worry about infection through touch and casual contact, since HIV does not spread this way.

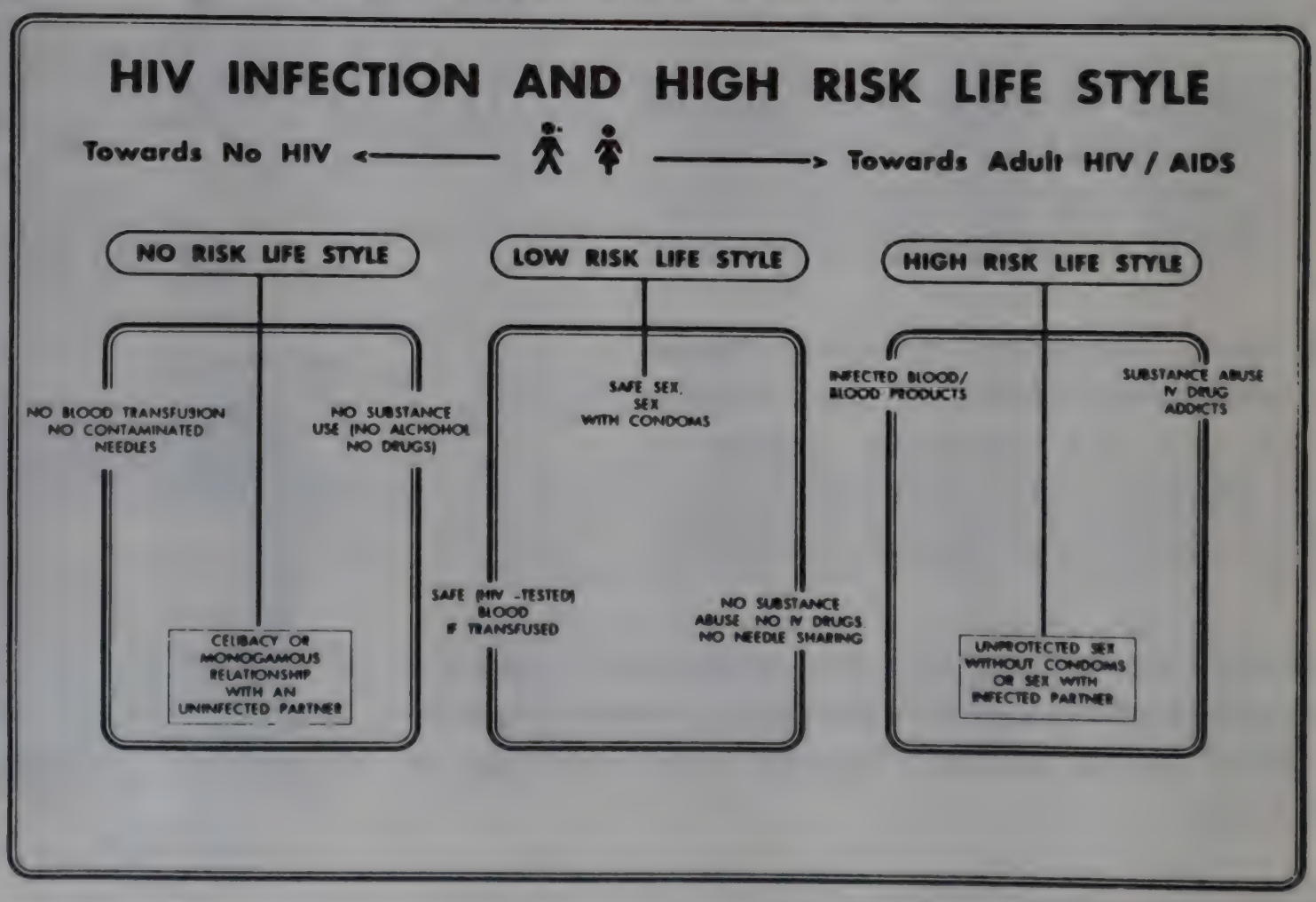
# Chapter 18: PREVENTION AT COMMUNITY LEVEL

The public health authorities have a significant role to play in combatting this disease, particularly in the following areas:

1. Screening blood samples to remove blood contaminated with the HIV virus.
2. Providing vaccination services with sterilizing facilities in the case of re-usable syringes and needles; or, alternatively, supplying disposable syringes.
3. Ensuring that people receive scientific information on HIV/AIDS through all channels of communication, in the languages they speak, and conforming to their socio-economic conditions and cultural affinities.
4. Popularizing use of and ensuring adequate supply of condoms.
5. Providing free, confidential HIV testing and pre- and post-test counselling services.
6. Ensuring that persons with HIV or AIDS, or those who think they might be at risk, are protected against discrimination so that they feel free to seek the help they need.
7. Educating the community on safer sex practices.

All these activities depend heavily on government, but most prevention hinges mainly on the attitude and responsible behaviour of the individual. He and she can both adopt safer sex practices, avoid activities which can transmit the infection, and influence family, friends and colleagues to do likewise.

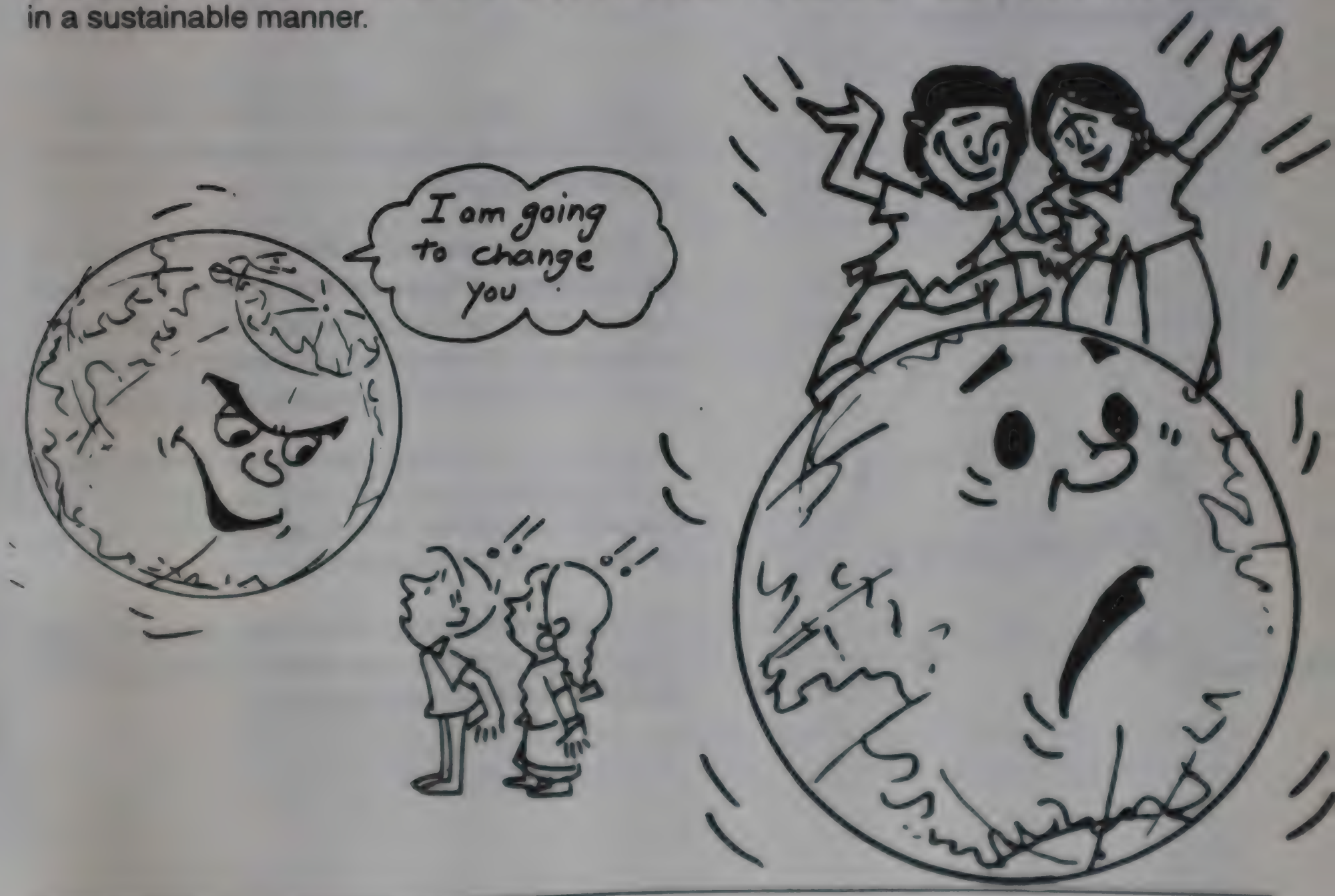
The diagram illustrates the features of no risk, low risk and high risk lifestyles. The essence of prevention is changing behaviour and attitudes to low or no risk lifestyle. Those who are at no risk should stay that way after becoming aware of AIDS.


HIV INFECTION AND HIGH RISK LIFE STYLE
Towards No HIV
Towards Adult HIV / AIDS
NO RISK LIFE STYLE
LOW RISK LIFE STYLE
HIGH RISK LIFE STYLE
NO BLOOD TRANSFUSION NO CONTAMINATED NEEDLES
NO SUBSTANCE USE (NO ALCHOHOL NO DRUGS)
CELIBACY OR MONOGAMOUS RELATIONSHIP WITH AN UNINFECTED PARTNER
SAFE SEX, SEX WITH CONDOMS
SAFE (HIV -TESTED) BLOOD IF TRANSFUSED
NO SUBSTANCE ABUSE NO IV DRUGS NO NEEDLE SHARING
INFECTED BLOOD/ BLOOD PRODUCTS
SUBSTANCE ABUSE IV DRUG ADDICTS
UNPROTECTED SEX WITHOUT CONDOMS OR SEX WITH INFECTED PARTNER

## COLLECTIVE ACTION

Armed with information and empowerment, a student is able to protect himself from AIDS. Many such students together can form a powerful action group, represented as a human chain in the diagram. AIDS control activities initiated and conducted by them with the help of peers, teachers, parents, etc., in their own communities, is the essence of the collective action approach. This team-work approach aims to improve health through acting on the environment. Unlike policy development within existing structures, collective action seeks change from the grassroots upwards.

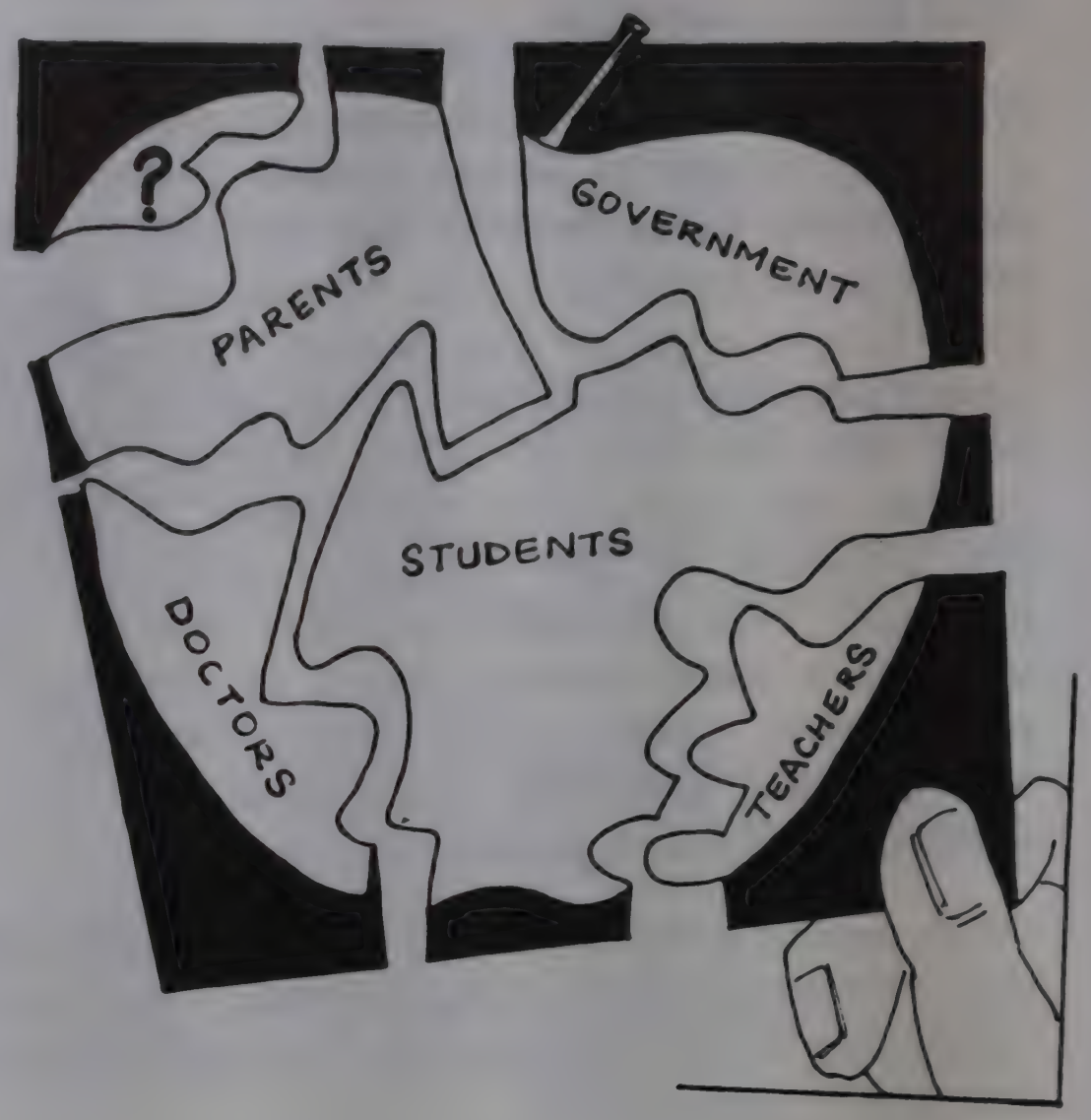
While exploring the underlying reasons for unhealthy behaviour patterns, existing systems may be blamed by the erring individual. The illustrations show how it is possible for even youngsters to be empowered to change the system to suit their healthy behaviour patterns in a sustainable manner.

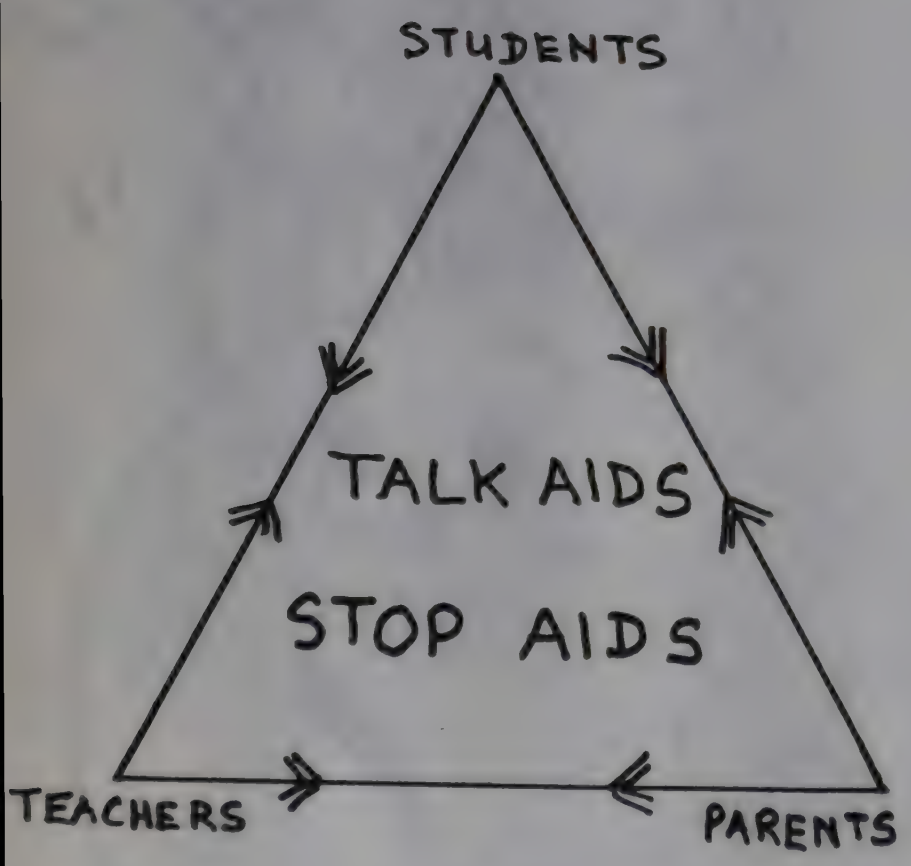


Various groups of people like doctors, parents, students, teachers, business community and government authorities have to come forward collectively to spread awareness and help control the spread of AIDS. Collective action programmes can be initiated by any individual or group. These activities can be conducted in a simple and inexpensive manner in local communities.

The belief that the epidemic can be overcome, forms the basis of activities initiated by various groups of people.

Collective action is believed to have most influence on health as it seeks to alter social environment and facilitate behaviour change.




Collective action strategies have been effective in terms of reducing or stopping smoking and drinking alcohol.

In India, since we are in the beginning stage of the epidemic, there is every reason to believe that through collective action of youth, their willingness to change to healthy lifestyles, control of HIV infection is an achievable target.

Community activities designed to increase communication between parents, teachers and students should be encouraged. The strategy is TALK AIDS STOP AIDS.

As explained earlier, teachers, parents and counselling centres are the best sources of correct information and support.

## ANTI-AIDS CLUB

The concept of Anti-AIDS Clubs is new in India. But the experience in Lusaka, Zambia has shown great success among secondary school children. Presently, there are more than 200 such clubs in Zambia. These clubs are similar to self-help groups, but differ in some respects.

Anti-AIDS clubs function with three main aims, reflected in the club promises that each member has to make (in other countries different promises may be considered more suitable), as given here:

> I will avoid HIV infection and AIDS by avoiding sex before marriage and outside marriage.
>
> I will help my friends and relatives to protect themselves by telling them about HIV infection and AIDS.
>
> I will help people with HIV infection / AIDS as much as possible.

Each school club has an adult 'patron', usually a teacher at the school, who helps students run the club.

### *What do the Clubs do?*

Each club develops its own organization, rules and activities, making it slightly different. After getting permission from the head teacher or community leader, a committee of interested members can be formed to plan activities and to write the membership rules.

Firstly, all committee members should carefully read and discuss information on AIDS (such as material brought out by Non-Governmental Organisations, Government and the World Health Organization), with an adult who is well informed (for example, a nurse or doctor from the local hospital or clinic).

Club activities could include:

> Doing a local survey to find out what school students and members of the public believe, and know, about AIDS. Use the results of this to plan information campaigns.
>
> Making and circulating membership cards which members can sign and keep, and which have the club promises written clearly on them.
>
> Helping people with AIDS, in activities such as gardening, carrying water, cooking, helping with their children, taking messages, are examples of support systems in the community.

Organizing fund raising activities for printing educational materials, club magazine and posters, and for providing support to patients and their families. It is also worth approaching the parent-teacher association, local health workers and the National AIDS Committees for club funds.

Organizing educational activities: using subjects related to AIDS and other sexually transmitted diseases (STD) as the bases for school projects in Science; organizing school quizzes and debates; inviting outside speakers from the local hospital or clinic where AIDS patients are being treated; writing and rehearsing plays or songs about HIV infection; organizing 'design a poster' competition with prizes; practicing writing and giving talks on AIDS. Talks must be short, accurate and interesting. Slides on AIDS/HIV infection may be used.

Producing a club magazine. The magazine could include poems, stories, cartoons and a section for readers' letters and questions (these should be answered anonymously where requested). A special club mail box can be provided in school for students to put in their written questions about AIDS and other STDs. Correct answers should be published in the club magazine.

*Equipped with all this information and empowerment, there is no doubt that collective action will be a natural outcome besides being the only solution to control AIDS. The youth shall rise to the occasion and march forward.*

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